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Test-24

Test Booklet Series

C

GENERAL STUDIES (P) 2022 – Test – 3493

Time Allowed: Two Hours

Maximum Marks: 200

2022

FULL LENGTH TEST (COMPLETE SYLLABUS

Indian Constitution, Political System and Governance

Geography + History of India

Indian Economy & Social

Development + Ecology & Environment + General Science

+ Current Affairs

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1. With regards to the India Energy Outlook Report 2021, consider the following statements:

1. It is published by the International Atomic Energy Agency.
2. As per the report, India is the second largest global energy consumer.
3. Wind and solar energy constitute nearly 20% of India's installed capacity.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

2. Consider the following statements regarding Kalbelia dance :

1. It is a folk dance of Rajasthan state.
2. It is included in the UNESCO list of Intangible Cultural Heritage.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

3. Arrange the following components of industry in increasing order of their share in India's Gross Value Added (GVA) during FY21.

1. Mining
2. Manufacturing
3. Construction
4. Electricity

Select the correct answer using the code given below.

(a) 2-1-4-3
(b) 1-3-2-4
(c) 2-3-4-1
(d) 1-2-4-3

4. Consider the following statements with reference to the Insolvency and Bankruptcy Code (Amendment) Ordinance, 2021:

1. It includes both individuals and the companies who are unable to repay their outstanding debt.
2. It has two different resolution processes for corporate debtors and micro, small and medium enterprises (MSMEs).
3. In both the resolution processes the debtor himself or its creditors may apply for the initiation of insolvency resolution.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 1, 2 and 3
(d) 2 and 3 only

5. As per Sufism traditions the term *'ziyarat'* refers to

(a) community hospices of sufi saints
(b) pilgrimage to sufi saint tombs
(c) spiritual ecstacy attained by Sufi saints
(d) devotional musical tradition of sufi mystics

6. Consider the following statements with reference to Blue Hydrogen:

1. Blue Hydrogen is derived by the electrolysis of water using renewable power.
2. Extraction of Blue Hydrogen leads to emissions of carbon monoxide and carbon dioxide.

Which of the following statements is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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7. Consider the following statements in the context of BIMSTEC:

1. It was established as an economic bloc through Bangkok Declaration.
2. The members of the BIMSTEC group share a Free Trade Agreement.
3. Both Bhutan and India were founding members of the BIMSTEC.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1, 2 and 3
(c) 2 and 3 only
(d) 1 and 3 only

8. Which of the following statements is/are correct regarding the Indian economy post-1991 reforms?

1. The growth in the Indian economy is mainly driven by the growth in the manufacturing sector.
2. There is a rapid increase in foreign direct investment and foreign exchange reserves of India.
3. There has been a shift in agriculture production towards production for the export market focusing on cash crops.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

9. *Potyvirus*, *cucumovirus* and *geminivirus* are frequently seen in the news in the context of:

(a) crop diseases
(b) zoonotic diseases
(c) cattle diseases
(d) vector borne diseases in humans

10. Consider the following statements:

1. A law on a concurrent subject, though enacted by the Parliament, is to be executed by the states.
2. A single state cannot request the Parliament to make a law on a state subject.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

11. With reference to Article 368 of the constitution of India, which of the following actions require a special majority plus state ratification by half of the states?

1. Increasing number of judges in the Supreme Court.
2. Abolition of the GST Council
3. Amending Fundamental Rights

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) 1 and 2 only
(d) 2 and 3 only

12. In the context of the economy, the Lorenz curve reveals the

(a) effect of devaluation of currency on country's balance of trade.
(b) distribution of income in an economy.
(c) degree of income inequality.
(d) effect of inflation on the unemployment rate.

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13. Which of the following statements is ***not*** correct with reference to the Non-Accelerating Inflation rate of unemployment (NAIRU)?

(a) It is the highest unemployment rate in an economy without causing wages growth and inflation to rise.
(b) NAIRU only account for the impact of inflation on unemployment in an economy.
(c) The economy operates above its full capacity when the unemployment rate is lower than the NAIRU.
(d) It help in assessing the spare capacity in the economy.

14. Consider the following statements about the Cripps Mission:

1. It offered dominion status with no right of secession for the provinces.
2. Gandhiji was the official negotiator from the Congress side.
3. The only political party to welcome it was the Radical Democratic Party led by M.N. Roy.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) None

15. With reference to 'retractable roof polyhouse technology' for the growth of food crops, consider the following statements:

1. It is a type of greenhouse that uses a transparent polyethylene to cover the roof and sides of the building to let natural light in.
2. It allows the farmers to control the duration of sunlight quantity, humidity and carbon dioxide levels for plant growth.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

16. Which of the following statements regarding the Asian Infrastructure Investment Bank (AIIB) are correct?

1. AIIB is the second largest multilateral development bank by membership after the World Bank.
2. China is the largest shareholder with 26.61% voting shares in the bank followed by Japan.
3. AIIB offers only sovereign loans to its member countries.

Select the correct answer using the code given below.

(a) 1, 2 and 3
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1 only

17. Consider the following pairs:

Inscriptions		***Rulers***
1. Dhauli	:	Ashoka
2. Nasik	:	Gautamiputra Satkarni
3. Mandasor	:	Yashodharman

Which of the pairs given above is/are correctly matched?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

18. Consider the following statements :

1. Currently there are 25 High Courts in India.
2. President determines the strength of a high court from time to time.
3. A High Court judge holds office until he attains the age of 65 years.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

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19. Consider the following statements regarding the ASEAN Regional Plan of Action on Adaptation to Drought (ARPA-AD) 2021-2025:

1. It was adopted at the 26th UN Climate Change Conference of the Parties (COP26) at Glasgow.
2. It was developed with the support of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

20. Consider the following statements regarding Hallmark Unique Identification (HUID) number:

1. It is a 16 digit alphanumeric code given to jewellery at the time of hallmarking.
2. It is mandatory for every piece of jewellery.
3. It would enable traceability of jewellery

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

21. Consider the following pairs:

Glacier		***River***
1. Charabari	:	Mandakini
2. Bandarpunch	:	Chenab
3. Milam	:	Sutlej
4. Zemu	:	Teesta

Which of the pairs given above are correctly matched?

(a) 1 and 2 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 2 and 4 only

22. Which of the following are the expected outcomes if an electronics recycling company is R2 certified in accordance with the R2 Code of Practices?

1. Higher profit margins and additional market share through improvements in its operating systems and processes.
2. Assurance to the companies' customers that it takes appropriate measures at its facility to protect the environment.
3. Assurance that all of a customer's retired IT assets will be refurbished or recycled responsibly and legally irrespective of the location of the services provided.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

23. With reference to the Financial account of Balance of Payment, consider the following statements:

1. The financial account is the measurement of current ownership of the international assets .
2. Investment in securities and commodities form a component of Financial Account under Balance of Payments.
3. Increase in the foreign ownership of domestic assets adds to the financial account.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

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24. With reference to the powers of Governor consider the following statements:

1. Chancellors of universities in a state are normally appointed by the Governor.
2. Governor cannot commute a death sentence.
3. Governor can dissolve State Legislative Council if the council of ministers has lost its majority.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) None

25. Which among the following events happened earliest?

(a) Congress split at Surat
(b) Muzaffarpur conspiracy
(c) Establishment of National Council of Education
(d) Establishment of Servants of India Society

26. Which of the following farmer welfare schemes is/are Centrally Sponsored Schemes?

1. Pradhan Mantri - Kisan Samman Nidhi
2. Pradhan Mantri Fasal Bima Yojana
3. Pradhan Mantri Kisan Maan-dhan Yojana

Select the correct answer using the code given below.

(a) 1 and 3 only
(b) 2 only
(c) 1, 2 and 3
(d) 3 only

27. Consider the following statements about the languages mentioned in the Eighth Schedule of the Indian Constitution:

1. English is one of the mentioned languages in the eighth schedule.
2. The most recent language to be added to the eighth schedule is Manipuri.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

28. Consider the following statements with reference to the debentures issued by the companies:

1. The debenture holders are the creditors of the company and are entitled to get interest irrespective of profit earned by the company.
2. Interest paid on debentures is treated as an expense and is charged to the profits of the company.
3. Debenture holders have the right to vote and participate in the management of the company.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 1 and 2 only
(c) 1 only
(d) 2 and 3 only

29. Which of the following statements is ***not*** correct regarding the Gupta age?

(a) Gupta empire rose on the ruins of Hunas.
(b) The punishments in the Gupta empire were very severe and there was a strong spy system.
(c) Ring-wells used for irrigation appeared for the first time in the Gangetic plains.
(d) Gupta kings issued die-struck coins mostly in gold.

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30. Consider the following pairs:

State/UT		*Ramsar Site*
1. Ladakh	:	Tso Kar Wetland
2. Gujarat	:	Asan Conservation Reserve
3. Uttar Pradesh	:	Sur Sarovar

Which of the pairs given above is/are correctly matched?

(a) 2 only
(b) 1 only
(c) 1 and 3 only
(d) 1 and 2 only

31. In the context of regional and caste movements, consider the following pairs:

Movement		*Area/Region*
1. Satyashodhak samaj	:	Maharashtra
2. Aravipuram movement	:	Karnataka
3. Kayasth Sabha	:	Uttar Pradesh
4. Nadar movement	:	Kerala

Which of the pairs given above are correctly matched?

(a) 1 and 3 only
(b) 2 and 4 only
(c) 1, 3 and 4 only
(d) 1, 2 and 3 only

32. With reference to the works of Aryabhatta, consider the following statements:

1. He formulated the rule to find the area of a triangle which led to the origin of trigonometry.
2. He discovered that earth rotated on its own axis.
3. He gave a scientific explanation for the occurrence of solar and lunar eclipses.

Which of the statements given above is/are correct?

(a) 1, 2 and 3
(b) 3 only
(c) 1 and 2 only
(d) 1 only

33. Recently the Saryu Nahar National Project has been launched, which was completed under the Pradhan Mantri Krishi Sinchayee Yojana. Which of the following rivers are inter-linked by the Saryu Nahar National Project?

1. Betwa
2. Chambal
3. Saryu
4. Ghaghara
5. Banganga

Select the correct answer using the code given below.

(a) 1, 2 and 3 only
(b) 1, 2, 4 and 5 only
(c) 1, 3 and 4 only
(d) 3, 4 and 5 only

34. With reference to the Anti-Defection Law in India consider the following statements:

1. Anti-Defection Law was enacted on the recommendation of the Y.B Chavan committee.
2. A legislator's speech and conduct inside the legislature cannot be used to disqualify him under the Anti-Defection Law.
3. Under this law, the presiding officer of legislature has to decide on a disqualification case brought before him within six months.

Which of the statements given above is/are not correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

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35. In India, FDI is prohibited in which of the following sectors?

1. Chit funds
2. Nidhi company
3. Insurance sector
4. Public Sector Banks

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 2 and 4 only

36. Consider the following currencies:

1. Yen
2. Renminbi
3. Swiss Franc
4. Pound Sterling

Which of the currencies mentioned above are part of the Special Drawing Rights (SDR) basket of the IMF?

(a) 1 and 4 only
(b) 1, 2, 3 and 4
(c) 1, 2 and 4 only
(d) 2 and 3 only

37. With reference to the election process and guidelines in India consider the following statements :

1. Any person contesting elections to the Lok Sabha must deposit 25000 rupees.
2. EVMs and postal ballot papers used in elections contain photographs of the candidates along with their party symbols.
3. Any person who is not convicted but in jail can vote in an election.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) 2 and 3 only
(d) 1 and 3 only

38. Which of the following statements regarding the provisions of the Communal Award is/are correct?

1. Muslims, Sikhs and Marathas to get separate electorate.
2. Depressed classes to get "double vote", one used for separate electorate and other for general electorate.
3. Three per cent seats to be reserved for women in all provinces across the country.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 only
(c) 1, 2 and 3
(d) 3 only

39. With reference to Non-fungible tokens (NFTs), consider the following statements:

1. NFT is a digital asset that exists on a blockchain with a unique digital signature.
2. These can be bought with cryptocurrencies or cash.
3. All kinds of digital objects including texts and tweets on twitter can be turned into an NFT.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 only
(c) 1 and 2 only
(d) 1, 2 and 3

40. 'These paintings are done on the walls of houses to mark special or thanksgiving occasions. These are painted by Rathva Bhils. These are large wall paintings, representing rows of numerous and magnificently coloured deities depicted as horse riders.'

Which of the following is being described in the above given passage?

(a) Pithoro paintings
(b) Phad paintings
(c) Mithila paintings
(d) Pata paintings

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41. With regard to which of the following functions of the government, can the writ of mandamus be issued?

1. Judicial
2. Legislative
3. Administrative

Select the correct answer using the code given below.

(a) 1 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 3 only

42. Consider the following statements regarding a water body:

1. It is the deepest hypersaline lake in the world.
2. It is the lowest body of water on the surface of Earth.
3. It is shrinking at an alarming pace losing more than a meter of water per year.

Which of the following water bodies is best described by the statements given above?

(a) Black Sea
(b) Caspian Sea
(c) Dead Sea
(d) Adriatic Sea

43. Recently, Parliament passed the Juvenile Justice (Care and Protection of Children) Amendment Bill, 2021. In this context, consider the following statements:

1. The adoption of a child is final only if the adoption order is issued by a civil court.
2. All offenses committed against children will be cognizable and non-bailable.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

44. TRPV1 & TRPM8 channel proteins, recently in news are associated with

(a) genome editing tools
(b) herbicide tolerant rice varieties
(c) RNA based vaccines
(d) receptors for temperature and touch

45. Which of the following statements about Biomass as a source of energy is ***not*** correct?

(a) Burning biomass leads to net addition of carbon dioxide in the atmosphere.
(b) Biomass can be derived from organic waste or organic component of municipal waste.
(c) Biomass is formed by carbon captured during photosynthesis.
(d) Burning biomass releases carbon monoxide, carbon dioxide and nitrogen oxides.

46. Consider the following statements with reference to the Second Five Year Plan (FYP):

1. The Plan aim was to make India a 'self-reliant' and 'self-generating' economy.
2. The Plan focused on rapid industrialization based on heavy & basic industries.
3. The Plan has achieved the targeted growth rate.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

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47. Which of the following is/are the sources of nanoparticle pollution in the environment?

1. Smoke from volcanoes and forest fires.
2. Use of sunscreen lotions on beaches.
3. Production of raw materials during mining and refining.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

48. Consider the following pairs:

Butterfly Species		**State Butterfly**
1. Kaiser-i-Hind	:	Meghalaya
2. Blue Mormon	:	Maharashtra
3. Common Peacock	:	Uttarakhand

Which of the pairs given above is/are correctly matched?

(a) 1 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

49. Consider the following statements regarding the State Legislatures in India :

1. Tamil Nadu does not have a Legislative Council.
2. Maharashtra is the second largest Legislative Assembly in the country.
3. Under Article 169, provisions for having a Legislative Council extend to states and union territories with legislatures.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

50. In the context of digital technologies for entertainment, consider the following statements:

1. In Augmented Reality users experience a digital environment and are unaware of what occurs in the physical environment around them.
2. Mixed Reality allows individuals to be present in the world and interact with a virtual environment simultaneously.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

51. With reference to the administration of the Mughals in India, consider the following statements:

1. Diwan-i Kul looked after all matters pertaining to the military administration.
2. The chief duty of the Mir Saman was to protect the laws of the Shariat.
3. The Sadr-us Sudur was the officer in-charge of the royal karkhanas.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) None

52. Consider the following statements regarding the global Circular Electronics Partnership (CEP):

1. It is led by World Wide Fund for Nature and International Renewable Energy Agency.
2. It aims to maximize the value of components, products and materials throughout their full lifecycles.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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53. Consider the following statements :

1. The nomenclature 'Rajya Sabha' for Council of States was adopted in 1949.
2. In independent India, Rajya Sabha met for the first time in 1952.
3. S.V.Krishnamoorthy Rao was the first Deputy Chairman of Rajya Sabha.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

54. Consider the following statements:

1. Cabinet Secretary is the Ex officio Vice Chairman of Civil Services Board.
2. In the order of precedence, he enjoys the same rank as a judge of the Supreme Court.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

55. Consider the following statements with reference to the representations of the Kakatiya architecture:

1. Thousand Pillar temple built during this period is a triple shrine dedicated to Vishnu, Shiva, and Surya.
2. Golconda Fort which served as an early capital of the Qutub Shahi dynasty was built during Kakatiya rule.
3. Sandbox Technique was used to build the foundation of the Ramappa Temple.

Which of the statements given above is/are correct?

(a) 3 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

56. In the context of bees, which of the following statements best describes Colony Collapse Disorder?

(a) It is the disappearance of a queen bee in a colony which hampers further propagation of the colony.
(b) It is a sudden drop in the number of drones or male bees in colony.
(c) It is the disappearance of majority of worker bees in a colony leaving behind a queen and plenty of food.
(d) It is the collapse of a bee hive due to excessive accumulation of nectar.

57. Kesariya Stupa or Devala as is called locally is one of the largest and tallest Buddhist stupas in the world. It is located in

(a) Madhya Pradesh
(b) Uttar Pradesh
(c) Bihar
(d) Andhra Pradesh

58. Consider the following:

1. Soyabean
2. Barley
3. Turmeric
4. Cotton
5. Groundnut

The Cabinet Committee on Economic Affairs has announced the Minimum Support Price for which of the above?

(a) 1, 2, 4 and 5 only
(b) 2, 3 and 5 only
(c) 1, 3 and 4 only
(d) 1, 2, 3, 4 and 5

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59. Consider the following statements about Indian Home Rule Society established during India's freedom struggle:

1. It was established outside India.
2. It was started by Shyamji Krishnavarma.
3. Its objective was to attain complete Independence by passive resistance and non-cooperation of an extreme form.

Which of the statements given above are correct?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) None

60. Which of the following present their budget to the Lok Sabha?

1. Union government
2. Union Territories without legislature
3. States under the President's Rule.

Select the correct answer using the code given below.

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

61. The movement started soon after the annexation of Bengal by the British. During the movement, the British authority was defied and taxes were levied on zamindars and peasants. The movement was started by Muslims but Hindus also actively participated in it. Bhawani Pathak and Devi Chaudhurani were among the prominent Hindu leaders who supported the movement.

Which of the following movements is being described in the above-given passage?

(a) Pazhassi revolt
(b) Ramosi uprising
(c) Fakir uprising
(d) Indigo revolt

62. Consider the following statements regarding Indian Pharma Industry:

1. India is the largest manufacturers and exporter of generic medicines.
2. 100% Foreign Direct Investment (FDI) is allowed under the automatic route for greenfield pharmaceuticals.
3. Pharma Industry accounts for the largest share of Indian exports during 2020-21.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1 only

63. With reference to International Trade in Agricultural Commodities, consider the following statements:

1. India has remained a net exporter of agri-products since 1991.
2. The share of basmati rice in total agricultural export value has been declining since 2015-16.
3. Marine products constitute the highest share of total agricultural export value during the last six years.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 1 and 3 only
(d) 2 and 3 only

64. Passivated Emitter and Rear Contact technology (PERC), recently in news is related to

(a) Pulse oximeter
(b) X-ray imaging
(c) Solar cell technology
(d) Detection of gravitational waves

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65. Which among the following must be excluded while calculating National Income by expenditure method?

1. Purchase of shares in the National Stock Exchange
2. Central Vista Redevelopment Project
3. Prime Minister Research Fellowships (PMRF)
4. Donations to Prime Minister National Relief Fund

Select the correct answer using the code given below.

(a) 1 and 4 only
(b) 2 and 3 only
(c) 1, 2 and 3 only
(d) 1, 3 and 4 only

66. Which of the following best describes *"Oceanic Gyres"*?

(a) Formation of coral reefs around equatorial region.
(b) Local movement of water caused by meteorological effects such as atmospheric pressure.
(c) Large systems of circular ocean currents formed by global wind patterns
(d) Relief feature formed around active volcanoes in the ocean.

67. In which of the following ways may cell phone towers and their radiation affect birds?

1. Their navigation skills are adversely impacted leading to disoriented flying.
2. Their bodies get cooled down very fast.
3. Eggs and embryos of some species may get damaged.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

68. Consider the following statements with respect to Sattriya:

1. The Sattriya dance form was introduced in the 15th century A.D by the saint Sankaradeva.
2. The repertoire of Sattriya dance is centered around Lord Siva.
3. Group dances are common in traditional Sattriya dance.
4. In order to maintain its uniqueness, dance elements from local folk dances were not included in the repertoire of Sattriya dance.

Which of the statements given above are correct?

(a) 2 and 4 only
(b) 1 and 3 only
(c) 1 and 4 only
(d) 1, 3 and 4 only

69. Consider the following statements regarding Fishing Cat:

1. It is nocturnal in nature.
2. In India, fishing cats are only found in the mangrove forests of the Sundarbans.
3. It is an adept swimmer and can enter the water to prey on fish.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 1 and 3 only

70. In the context of Science & Technology, Hind II is a

(a) herbicide tolerant rice variety
(b) DNA based vaccine first developed in India
(c) restriction enzyme
(d) None of the above

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71. Consider the following statements about the Uttar Mimamsa school of philosophy:

1. It has its roots in Samkhya Philosophy.
2. It believes the world is Maya (illusion) and there is only one reality, Brahman.
3. It strongly recommends the performance of Vedic sacrifices to attain salvation.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) 1 and 2 only
(d) 1, 2 and 3

72. Consider the following statements:

1. A reclining Buddha statue represents the Buddha in which he is about to enter Parinirvana.
2. Reclining Buddha was first depicted in Gandhara art.
3. The largest Reclining Buddha in the world is in Cambodia's Angkor

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

73. Consider the following pairs:

Diamond Mines		**Country**
1. Aikhal	:	Russia
2. Jwaneng	:	South Africa
3. Nyurba	:	Botswana
4. Catoca	:	Angola

Which of the pairs given above are correctly matched?

(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

74. With reference to key differences between Remissions of Duties and Taxes on Exported Products (RoDTEP) and Merchandise Exports from IndiaScheme (MEIS), consider the following statements:

1. Unlike MEIS, incentives under RoDTEP can only be used for the payment of Basic Customs Duty.
2. The RoDTEP incentive was often higher, as against the incentive under MEIS.
3. RoDTEP Scheme has been framed in accordance with the WTO guidelines, unlike the MEIS.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1 and 3 only

75. Which of the following statements are correct regarding James Webb Telescope?

1. It is an orbiting infrared observatory that can look inside dust clouds.
2. The telescope will travel to a distance of about 150 million km from Earth orbiting the L1 Point.
3. It is a joint collaboration of NASA, European Space Agency and the Japan Aerospace Exploration Agency.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

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76. Consider the following statements in the context of the Virtual Water Trade:

1. It refers to the import and export of hidden water in the form of products that require water for production.
2. India is a net virtual water importer because of the high dependency on imported products.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

77. Consider the following pairs :

Elephant Corridor		***State***
1. Sigur	**:**	Assam
2. Tamorpingla–Jashpur	**:**	Chhattisgarh
3. Karo-Karampada	**:**	Kerala

Which of the pairs given above is/are correctly matched?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) None

78. Located in one of the aridest zones of the peninsula, the kingdom was famous for state of the art rainwater conservation system. One such water reservoir is known as *kamalapuram.*

The above passage describes which of the following kingdoms?

(a) Vijayanagar Empire
(b) Parmara Dynasty
(c) Kakatiya Dynasty
(d) Pala Dynasty

79. Which of the following Directive Principles is/are socialist in nature?

1. To promote equal justice and to provide free legal aid to the poor.
2. The State shall protect every monument or place of artistic or historic interest.
3. To raise the level of nutrition and the standard of living of people and to improve public health.

Select the correct answer using the code given below.

(a) 1 and 3 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

80. Which of the following provisions was ***not*** provided by the Indian Councils Act, 1861?

(a) Indian members got representation in Governor-General's Council through nomination by Secretary of state.
(b) It empowered the Governor-General's Council to make laws.
(c) It decentralized the administration by setting up legislative councils in provinces.
(d) Governor-General was empowered to exercise veto power over the bills.

81. With reference to the various tree species of the world, consider the following statements:

1. The largest number of tree species are found in the Oceania and Nearctic realms.
2. The Indo-Malaya and Oceania biogeographic realm have the lowest proportion of threatened tree species.
3. Over 50% of the world's tree species are threatened with extinction.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) None

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82. With reference to monsoons in India, consider the following statements:

1. Strengthening of Somali Jet stream gives rise to strong monsoon over peninsular India.
2. Tropical Easterly Jetstream dissipates completely from the Indian Subcontinent during the monsoon break conditions.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

83. With reference to Apple production in India, consider the following statements:

1. Jammu and Kashmir alone accounts for more than 70% of apple production in India.
2. McIntosh is a variety of apple grown in the hilly areas of Himachal Pradesh and Uttarakhand.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

84. Consider the following statements regarding Coal deposits of India:

1. Tertiary coal deposits account for more than 90 percent of total coal reserves in India.
2. Tertiary coal is an inferior type of coal generally having low carbon content.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

85. With reference to the differences between Bioaccumulation and Biomagnification, consider the following statements:

1. While bioaccumulation refers to the accumulation of a toxic chemical in the tissue of a particular organism, biomagnification deals with build-up in multiple organisms.
2. While bioaccumulation takes place between two given trophic levels, biomagnification takes place or occurs within a given trophic level in a food chain.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

86. Who among the following can be appointed as the Returning Officer for the President's election in India?

(a) Speaker of Lok Sabha
(b) Vice President
(c) Chief Election Commissioner
(d) Secretary General of Lok Sabha

87. With reference to the ancient history of India, which of the following features are related to the Harappan site, Dholavira?

1. Water harvesting and management system
2. Wooden Signboard
3. Fire Altars
4. Dockyard

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 3 and 4 only
(d) 1, 2 and 4 only

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88. With reference to the Maratha Empire, the Sangola agreement signed in 1750 was to

(a) impose Chauth and Sardeshmukhi in new territories occupied by Marathas.

(b) invest Peshwa with more authority.

(c) enhance trade ties with East India Company.

(d) protect Hindus in Mughal territories.

89. Which of the following statements is/are correct with regards to the temperate deciduous forest?

1. They are dominated by low broad leafed evergreen trees.
2. They have deep podzolic soils.
3. Annual rainfall is distributed uniformly throughout forest.

Select the correct answer using the code given below.

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

90. Consider the following statements:

1. Active immunity refers to the protection that is produced by the person's own immune system.
2. Unlike passive immunity, active immunity usually is temporary.
3. The immunity received by an infant from mother is a form of active immunity.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 3 only

91. Consider the following statements:

1. Part XI of the Constitution deals with the relations between Union and States.
2. The word federation is not mentioned anywhere in the constitution.
3. Under the Seventh Schedule, the state list has more items than the concurrent list.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

92. Consider the following statements :

1. A Member of Parliament can object to the introduction of a Bill on the grounds that the Bill initiates legislation outside the jurisdiction of Parliament.
2. In the case of multiple Private Bills, a ballot system is used to decide the sequence of Bills for the introduction in Parliament.
3. A Bill can be published in the Official Gazette without introducing it in parliament.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

93. Which of the following components are included in Transfer payment under Current Account of Balance of Payments?

1. Gifts
2. Remittances
3. Grants
4. Government aid

Select the correct answer using the code given below.

(a) 1, 2 and 3 only

(b) 2, 3 and 4 only

(c) 1, 3 and 4 only

(d) 1, 2, 3 and 4

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94. Recently seen in news PANEX-21 is related to:
(a) Military exercise between India and New Zealand
(b) Humanitarian Assistance and Disaster Relief exercise
(c) Event hosted by CII for creating awareness on crypto currency
(d) Trade agreement signed between India and Russia

95. Which of the following pair of organisations has released the Report "Renewable energy for agri-food systems: Towards the Sustainable Development Goals and the Paris Agreement"?
(a) United Nations Environment Programme and Wadebridge Renewable Energy Network
(b) World Bank and Renewable Energy and Energy Efficiency Partnership
(c) Food and Agriculture Organization and International Renewable Energy Agency
(d) United States Agency for International Development and International Renewable Energy Agency

96. Consider the following statements with respect to the Lahore Congress Session, 1929:
1. Poorna swaraj was declared as the goal of the Congress.
2. It was presided by Jawaharlal Nehru.
3. The first All India Youth Congress came into being during this session.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

97. If light travels from a rarer medium to a denser medium, then which of the following is correct?
(a) Speed of light remains same
(b) Speed of light increases
(c) Speed of light decreases
(d) cannot be determined

98. Consider the following pairs:

Mineral deficiency		**Disease**
1. Calcium	:	Goitre
2. Iodine	:	Bone and tooth decay
3. Iron	:	Anaemia

Which of the pairs given above is/are correctly matched?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

99. With reference to Sun-synchronous orbit (SSO), consider the following statements:
1. Satellites in SSO remains fixed in the same position in the sky as viewed from any fixed location on Earth.
2. Satellites in SSO can be used to accumulate data on long-term problems like deforestation or rising sea levels.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

100. With reference to the SMILE scheme, consider the following statements:
1. SMILE aims at extensive rehabilitation and skill development of persons indulged in the act of begging
2. It is a central sector scheme formulated by the Ministry of Social Justice and Empowerment.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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ANSWERS & EXPLANATIONS
GENERAL STUDIES (P) TEST – 3493 (2022)

Q 1.C

- **Statement 1 is not correct: The first India Energy Outlook report was released in 2015 by the International Energy Agency (IEA). Six years later, the organization has released the India-specific energy outlook report in February 2021.** Most recently, the Covid-19 pandemic brought unprecedented disruptions to our societies and economies, with major consequences across the energy world. The India Energy Outlook Report 2021 focused India's future prosperity on affordable, clean and reliable energy. It was prepared by the World Energy Outlook (WEO) team in the Directorate of Sustainability, Technology and Outlooks (STO) in co-operation with other directorates of the International Energy Agency (IEA).
- **Statement 2 is not correct:** As per India energy global outlook report, India is fourth largest (and not third) global energy consumer. Energy use has doubled since 2000, with 80% of demand still being met by coal, oil and solid biomass.
- **Statement 3 is correct:** India's power sector in recent years has seen the remarkable growth of solar PV and wind sector, which have rapidly increased their share of the overall energy mix.In 2019, India announced a new target of 450 GW of renewable electricity capacity by 2030. Together, they now constitute nearly 20% of India's installed capacity.

Q 2.C

- **Kalbelia dance is a folk dance of Rajasthan state. It is well known by other names like 'Sapera Dance' or 'Snake Charmer Dance'. Hence, statement 1 is correct.**
- Kalbelia dance is particularly performed by a Rajasthani tribe called 'Kalbelia'.
- In Kalbelia dance generally males play various traditional instruments like khanjari and poongi and females perform the dance.
- **In 2010, the Kalbelia folk songs and dances of Rajasthan were declared a part of its Intangible Heritage List by the UNESCO. Hence, statement 2 is correct**
- Kalbelia songs disseminate mythological knowledge through stories, while special traditional dances are performed during Holi.

Q 3.C

- As per the latest estimates on Gross Value Added (GVA), the industrial sector is expected to record a growth of -9.6 per cent with an overall contribution in GVA of 25.8 per cent in 2020-21 (FY21). The contribution of the industrial sector has been constantly declining since 2011-12.
- The fall in share is across the board except in the case of 'Electricity, gas, water supply & other utility services' whose share in GVA has increased from 2.3 per cent in FY12 to 2.7 per cent in FY21. The performance of the various components of the industrial sector namely, manufacturing, mining and quarrying, electricity, and construction is presented in the below figure.
- From the figure, the share of Manufacturing > Construction > Electricity > Mining. **Hence, option (c) is the correct answer.**

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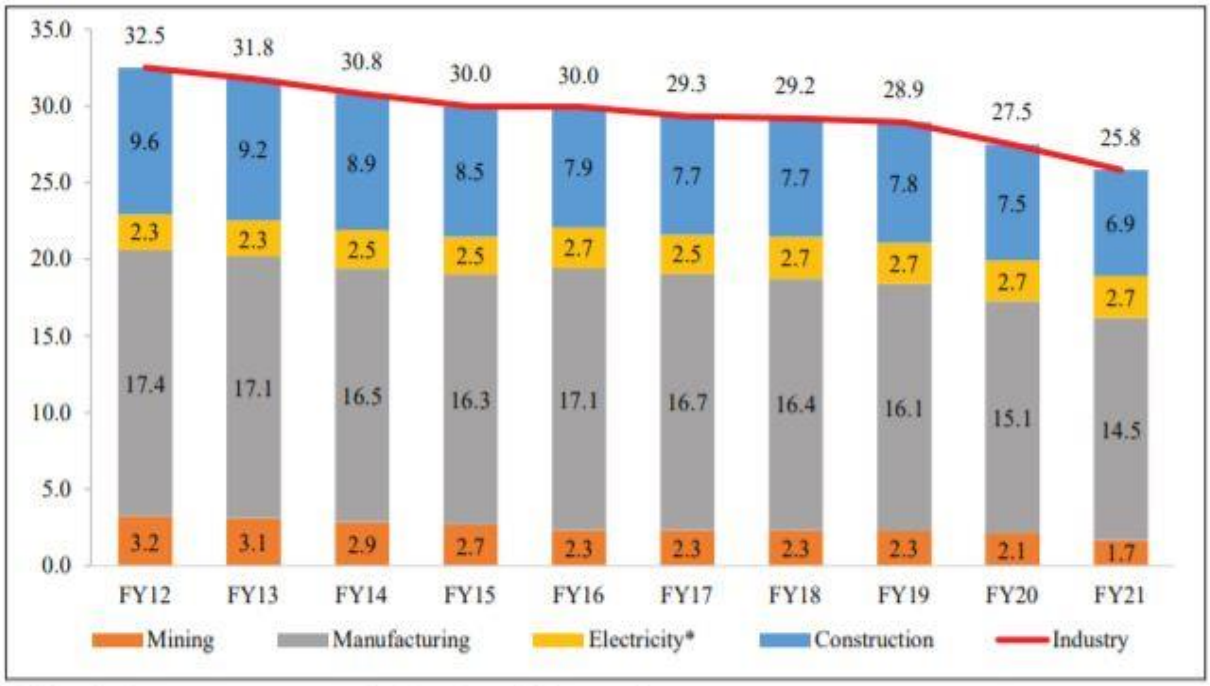

*Electricity, gas, water supply & other utility services.
Source: Survey calculations based on MoSPI data.

Q 4.B

- **GN Bajpai Committee** report on Insolvency and Bankruptcy Code (IBC), 2016 has been released recently.
- The **Insolvency and Bankruptcy Code (Amendment) Ordinance, 2021** was promulgated on April 4, 2021. It amends the Insolvency and Bankruptcy Code, 2016. Insolvency is a situation where individuals or companies are unable to repay their outstanding debt. **Hence, statement 1 is correct.**
- The Code provides a time-bound process for resolving the insolvency of corporate debtors and for micro, small, and medium enterprises (MSMEs). **Hence, statement 2 is correct.**
- For corporate debtors the process is to be completed within 330 days called the corporate insolvency resolution process (CIRP) where the debtor himself or its creditors may apply for initiation of CIRP in the event of a default of at least one lakh rupees.
- **Pre-packaged insolvency resolution:** The Ordinance introduces an alternate insolvency resolution process for micro, small, and medium enterprises (MSMEs), called the pre-packaged insolvency resolution process (PIRP). Unlike CIRP, PIRP may be initiated only by debtors. The debtor should have a base resolution plan in place. During PIRP, the management of the company will remain with the debtor. **Hence, statement 3 is not correct.**

Q 5.B

- Sufism is best described as Islamic mysticism or asceticism, which through belief and practice helps devotees attain nearness to God through personal experience.
- By the eleventh century, Sufism evolved into a well developed movement with a body of literature on Quranic studies and sufi practices.
- Institutionally, the sufis began to organise communities around the hospice or *khanqah* controlled by a teaching master known as *shaikh*, *pir* or *murshid*.
- These communities came to be known as orders or Sufi *silsilas* in course of time. The word silsila literally means a chain, signifying a continuous link between master and disciple, stretching as an unbroken spiritual genealogy to the Prophet Muhammad.
- **In Sufism when the *pir* died, his tomb-shrine became the centre of devotion for his followers. This encouraged the practice of pilgrimage or ziyarat to his grave, particularly on his death anniversary or urs (or marriage, signifying the union of his soul with God).**
- It was because people believed that in death saints were united with God, and were thus closer to him than when living. People sought their blessings to attain material and spiritual benefits.
- **Hence, option (b) is the correct answer.**

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- **Green Hydrogen** is derived by **electrolysis of water,** separating the hydrogen atom within it from oxygen using renewable energy such as wind, solar etc that eliminates emissions during process. **Hence statement 1 is not correct.**
- **Grey Hydrogen** is derived using fossil fuels and emits carbon Monoxide and Carbon dioxide.
- **Blue Hydrogen** is derived from **natural gas through the process of steam methane reforming(SMR).** SMR mixes natural gas with very hot steam, in the presence of a a catalyst, where a chemical reaction creates Hydrogen and Carbon Monoxide. It also releases Carbon Dioxide though 80-90% of Carbon dioxide is captured and stored. **Hence statement 2 is correct.**

Q 7.A

- **BIMSTEC is an economic bloc that came into being on 6 June 1997 through the Bangkok Declaration.** It aims to accelerate economic growth and social progress among members across multiple sectors — trade, technology, energy, transport, tourism and fisheries, agriculture, public health, poverty alleviation, counter-terrorism, environment, culture, people-to-people contact, and climate change. **Hence statement 1 is correct.**
- Initially, **the economic bloc was formed with four countries with the acronym 'BIST-EC' (Bangladesh, India, Sri Lanka, and Thailand Economic Cooperation).** With the entrance of Myanmar in 1997, the grouping was renamed 'BIMST-EC' (Bangladesh, India, Myanmar, Sri Lanka, and Thailand Economic Cooperation). Finally, with the **entrance of Nepal and Bhutan at the 6th Ministerial Meeting in 2004**, the grouping was named Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). **Hence statement 3 is not correct.**
- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) has passed 23 years since its inception in 1997. Being a regional cooperation initiative, BIMSTEC promotes co-operation in seven key economic areas including trade, investment, and transport and communications. In this connection, **member countries are currently negotiating for establishing the BIMSTEC Free Trade Agreement to propel trade and investment among member countries. Hence statement 2 is not correct**

Q 8.B

- The reform process has completed one and a half decades since its inception. The growth of GDP increased from 5.6 per cent during 1980-91 to 8.2 per cent during 2007-1012. During the reform period, the growth of agriculture has declined. While the industrial sectors reported fluctuation, the growth of the service sector has gone up. **This indicates that the growth is mainly driven by the growth in the service sector. Hence, statement 1 is not correct.**
- **The opening up of the economy has led to rapid increase in foreign direct investment and foreign exchange reserves.** The foreign investment, which includes foreign direct investment(FDI) and foreign institutional investment(FII), has increased from about US $ 100 million in 1990-91 to US $ 467 billion in 2012-13. There has been an increase in the foreign exchange reserves from about US $ 6 billion in 1990-91 to about US $ 304 billion in 2013-14. India is one of the largest foreign exchange reserve holders in the world. **Hence, statement 2 is correct.**
- Reforms have not been able to benefit agriculture, where the growth rate has been decelerating. Public investment in the agriculture sector especially in infrastructure, which includes irrigation, power, roads, market linkages and research and extension (which played a crucial role in the Green Revolution), has fallen in the reform period. **Because of export-oriented policy strategies in agriculture, there has been a shift from production for the domestic market towards production for the export market focusing on cash crops in lieu of production of food grains. This puts pressure on the prices of food grains. Hence, statement 3 is correct.**

Q 9.A

- **Potyvirus** is a genus of positive-strand RNA viruses in the family Potyviridae. Plants serve as natural hosts. The genus is named after member virus potato virus Y. Potyviruses account for about thirty percent of the currently known plant viruses.
- **Cucumovirus** is a genus of viruses, in the family Bromoviridae. Plants serve as natural hosts. There are four species in this genus.
- **Geminiviruses** are a large family of single-stranded DNA viruses that cause significant losses in economically important crops worldwide.
- **Hence option (a) is the correct answer.**

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- The executive power has been divided between the Centre and the states on the lines of the distribution of legislative powers, except in a few cases. Thus, the executive power of the Centre extends to the whole of India
  - to the matters on which the Parliament has the exclusive power of legislation (i.e., the subjects enumerated in the Union List)
  - to the exercise of rights, authority and jurisdiction conferred on it by any treaty or agreement.
- **In respect of matters on which both the Parliament and the state legislatures have the power of legislation (i.e., the subjects enumerated in the Concurrent List), the executive power rests with the states except when a Constitutional provision or a parliamentary law specifically confers it on the Centre.**
  - **Therefore, a law on a concurrent subject, though enacted by the Parliament, is to be executed by the states except when the Constitution or the Parliament has directed otherwise. Hence, statement 1 is correct.**
- **The distribution of legislative powers between the Centre and the states is rigid. Consequently, the Centre cannot delegate its legislative powers to the states and a single state cannot request the Parliament to make a law on a state subject.**
  - **When the legislatures of two or more states pass resolutions requesting the Parliament to enact laws on a matter in the State List, then the Parliament can make laws for regulating that matter. A law so enacted applies only to those states which have passed the resolutions. Hence, statement 2 is correct.**
  - However, any other state may adopt it afterward by passing a resolution to that effect in its legislature. Such a law can be amended or repealed only by the Parliament and not by the legislatures of the concerned states.

Q 11.B

- **A number of provisions in the Constitution can be amended by a simple majority of the two Houses of Parliament outside the scope of Article 368. These provisions include:**
  - Admission or establishment of new states.
  - Formation of new states and alteration of areas, boundaries, or names of existing states.
  - **A number of judges in the Supreme Court.**
  - Abolition or creation of legislative councils in states.
  - Second Schedule–emoluments, allowances, privileges, and so on of the president, the governors, the Speakers, judges, etc.
  - Quorum in Parliament.
  - Salaries and allowances of the members of Parliament.
  - Rules of procedure in Parliament.
  - Privileges of the Parliament, its members, and its committees.
  - Use of English language in Parliament.
  - Conferment of more jurisdiction on the Supreme Court.
  - Use of official language.
- **By Special Majority of Parliament**
  - **The provisions which can be amended by this way include Fundamental Rights, Directive Principles of State Policy, etc.**
- **By Special Majority of Parliament and Consent of States**
- **Those provisions of the Constitution which are related to the federal structure of the polity can be amended by a special majority of the Parliament and also with the consent of half of the state legislatures by a simple majority.**
  - Election of the President and its manner.
  - The extent of the executive power of the Union and the states.
  - Supreme Court and high courts.
  - Distribution of legislative powers between the Union and the states.
  - **Goods and Services Tax Council**
  - Any of the lists in the Seventh Schedule.
  - Representation of states in Parliament.
  - Power of Parliament to amend the Constitution and its procedure (Article 368 itself).
- **Hence, option (b) is the correct answer.**

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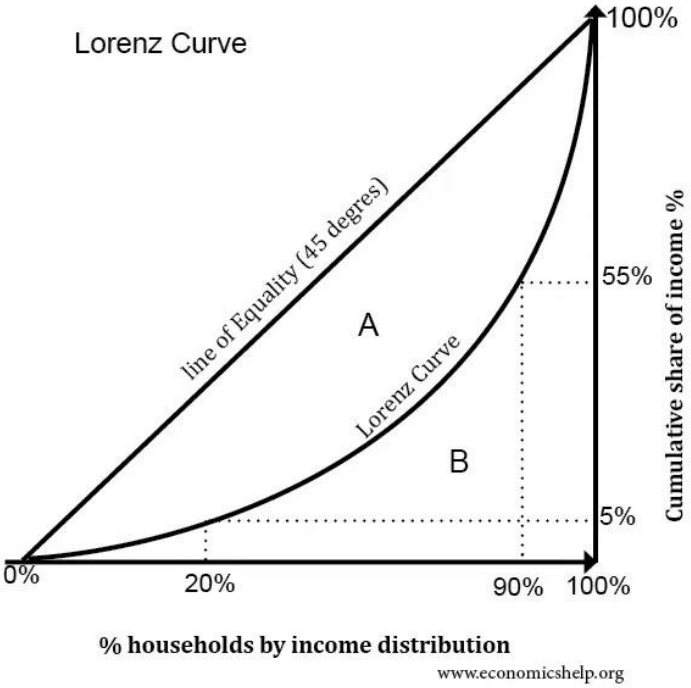
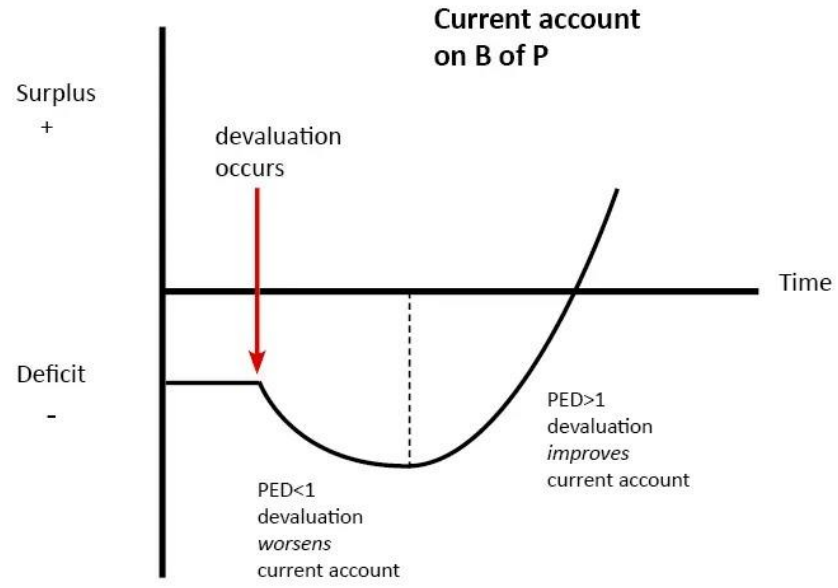
- **The Lorenz Curve (the actual distribution of income curve),** a graphical distribution of wealth developed by Max Lorenz in 1906, shows the **proportion of income earned by any given percentage of the population. Hence option (b) is the correct answer.**
- The line at the 45º angle shows perfectly equal income distribution, while the other line shows the actual distribution of income. The further away from the diagonal, the more unequal the size of the distribution of income.



- **Gini Coefficient:** The Gini Coefficient, which is derived from the Lorenz Curve, can be used as an indicator of economic development in a country.-The Gini Coefficient measures the degree of income equality in a population.-**The Gini Coefficient can vary from 0 (perfect equality) to 1 (perfect inequality).**-A Gini Coefficient of zero means that everyone has the same income, while a Coefficient of 1 represents a single individual receiving all the income
- **The main difference between the Gini coefficient and the Lorenz Curve is that the Gini coefficient helps in measuring the degree of income inequality and the Lorenz curve helps in understanding the distribution of income or wealth in an economy.**
- **J curve** –-A J-curve is a trendline that shows an initial loss immediately followed by a dramatic gain. In a chart, this pattern of activity would follow the shape of a capital "J".-The J-curve effect is often cited in economics to describe, for instance, **the way that a country's balance of trade initially worsens following a devaluation of its currency, then quickly recovers and finally surpasses its previous performance.**



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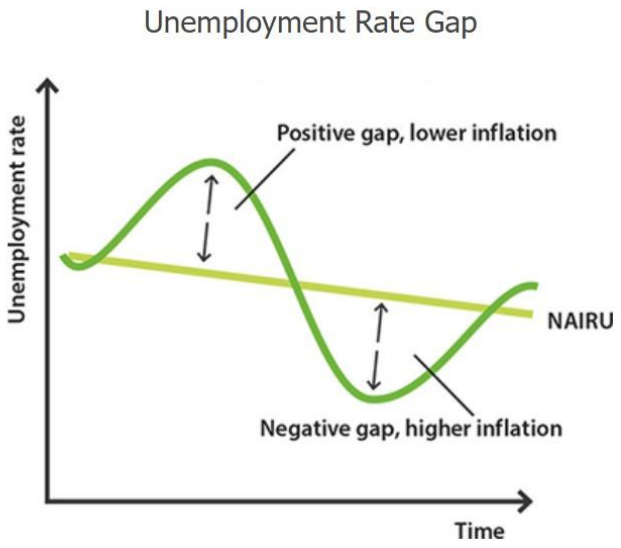
- **The NAIRU is the lowest unemployment rate that can be sustained without causing wages growth and inflation to rise. Hence option (a) is the correct answer.**
- When unemployment is at the NAIRU level, inflation is steady; when unemployment rises, inflation decreases; when unemployment drops, inflation increases.
- **With no set formula to determine NAIRU**, the Federal Reserve has historically used statistical models to put the NAIRU level somewhere between 5% and 6% unemployment
- On the downside, **NAIRU does not account for the variety of factors that impact unemployment, besides inflation; also, the historical connection between inflation and unemployment can break down, rendering NAIRU less effective**
- **A key indicator of spare capacity in the economy is the difference between the NAIRU and the unemployment rate – sometimes known as the 'unemployment rate gap' (and also referred to as the 'unemployment gap').**
- There will be spare capacity in an economy when aggregate demand for goods and services is less than the economy's capacity to produce them. As spare capacity decreases, businesses have difficulty finding enough suitable workers. As a result, businesses may offer higher wages to attract and retain workers, and they may increase the prices of their products to cover their higher labour costs.
- If the unemployment rate is higher than the NAIRU, the economy would not be at full employment and there would be downward pressure on inflation
- **If the unemployment rate is lower than the NAIRU, the economy is operating above its full capacity, and there is upward pressure on inflation.**



Q 14.C

- In March 1942, a mission headed by Stafford Cripps was sent to India with constitutional proposals to seek Indian support for the World War II. Cripps held detailed discussions with the Indian leaders and submitted a proposal.
  - The Cripps proposal declared that the aim of British policy in India was "the earliest possible realisation of self-government in India."
    - **It offered Dominion Status with right of secession for the provinces. Hence statement 1 is not correct.**
  - The British Government also refused to accept the demand for the immediate transfer of effective power to the Indians and for a real share in the responsibility for the defence of India.
- **J.L. Nehru and Maulana Azad were the official negotiators for the Congress. Hence statement 2 is not correct.**
- **The only political party to welcome the scheme was the Radical Democratic Party led by M.N. Roy. Hence statement 3 is correct.**
  - The Muslim League rejected the Cripps proposal as there was no assurance of a separate Muslim nation. The League did not like the idea of constituent assembly as such a body, they felt, would be dominated by the Hindus. The Muslim leaders claimed that partition was "the only solution of India's constitutional problem.
  - Other minority communities too were unhappy with the Cripps proposal as they were looking for concrete political advantages to safeguard their positions.

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were not impressed by Cripps proposal.

Q 15.C

- **Scientists from CSIR-Central Mechanical Engineering Research Institute (CMERI), Durgapur in West Bengal have developed a retractable-roof polyhouse that will enable farmers to open or shut the roof of the polyhouse as per the requirement.**
- A polyhouse is a specially constructed structure like a building where specialised polythene sheet is used as a covering material under which crops can be grown in partially or fully controlled climatic conditions. **It is covered with a transparent material as to permit the entry of natural light.** Polyhouses are also helpful in reducing threats such as extreme heat and pest attacks in crops. **Hence statement 1 is correct.**
- **A retractable roof will help farmers control the temperature and growing environment of the crops. The retractable roof can be used to manipulate sunlight quantity, quality & duration, water stress, humidity, carbon dioxide levels as well as crop and soil temperatures. Hence statement 2 is correct.**
- **There are two kinds of retractable-roof polyhouses. One, where the roof can be opened and closed manually by the farmer, and the other where it is automatic.**
- **The technology used in the retractable-roof polyhouses will enable the farmers to get the updates on the weather conditions, what the crops need in terms of humidity, temperature, moisture, etc. This way it will help the farmer cultivate both seasonal and non-seasonal crops.** Retractable Roof Polyhouse Technology will have an automatic retractable roof which will be operated based on weather conditions and crop requirements from the conditional database using PLC software.
- Conventional greenhouses have a stationary roof to reduce the effect of weather anomalies and pests. However, there are still disadvantages due to roof covering which sometimes lead to excessive heat and insufficient light (early morning). Besides this, they are also prone to insufficient levels of carbon dioxide, transpiration and water stress.

Q 16.D

- AIIB began operations in 2016 with 57 founding Members (37 regional and 20 non-regional). By the end of 2020, AIIB had 103 approved Members representing approximately 79 percent of the global population and 65 percent of global GDP and **making it the world's second-largest bank after World Bank. Hence, statement 1 is correct.**
- **China is the largest shareholder with 26.61 % voting shares in the bank followed by India (7.6%)**, Russia (6.01%), and Germany (4.2 %). **Hence, statement 2 is not correct.**
- Financing:
  - According to the Articles of Agreement (AOA) of AIIB, the **Bank will provide or facilitate financing to any member, or any agency, instrumentality or political subdivision thereof, or any entity or enterprise operating in the territory of a member, as well as to international or regional agencies or entities concerned with economic development of the Asia region. Hence, statement 3 is not correct.**
  - Sovereign-backed financing:
    - A loan to, or guaranteed by, a Member;
    - A guarantee that:
      - ✓ covers debt service defaults under a loan that are caused by a Government's failure to meet a specific obligation in relation to the Project or by a borrower's failure to make a payment under the loan;
      - ✓ is accompanied by a Member Indemnity.
    - Non-sovereign-Backed Financing: Non-sovereign-backed financing means any financing extended by the Bank that is not sovereign-backed financing; it includes any financing to or for the benefit of a private enterprise or a sub-sovereign entity (such as a political or administrative subdivision of a Member or a public sector entity) that is not backed by a guarantee or counter-guarantee and indemnity provided by the Member to the Bank.

Q 17.D

- **Dhauli:** It is a hillside lying on the banks of the River Daya, is situated in Orissa. This is the area that is believed to the **land for the Kalinga War** in the 3rd century B.C. between the Mauryan Empire led by Great Ashoka and Kalinga kingdom. His responses to this war were recorded in form of Ashoka edicts, which are essentially rock structures with inscriptions on them. Dhauli has several major Ashoka edicts and it is now an important center for Buddhism in India. Ashoka built several Stupas, Chaityas, Pillars

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correctly matched.

- **Nasik Inscription:** Some scholars believe that the Satavahanas originated in western Deccan (present-day Maharashtra). All four extant inscriptions from the early Satavahana period (c. 1st century BCE) have been found in and around this region. The **achievements of Gutamiputra Satkarni** were mentioned in Nasik's Inscription that was composed by his mother Gautami Balasri. The Nasik Prasasti describes Gautamiputra as the ruler of the Aparanta, Anupa, Saurashtra, Kukura, Akara, and Avanti and defeated the Saka King Nahapana and restored the prestige of his dynasty by reconquering a large part of the former dominions of the Satavahanas. **Hence pair 2 is correctly matched.**
- **Mandasor inscription:** The Mandasor Pillar Inscriptions of Yashodharman are a set of Sanskrit inscriptions from the early 6th-century discovered in northwestern Madhya Pradesh, India. These record the **victory of Aulikara king Yasodharman over the Hun king Mihirakula.**The Mandasur inscription praises Yasodharman describes him as having rescued the earth from "rude and cruel kings of the Kali age, who delight in viciousness". The inscription also mentions the victories of local ruler Yasodharman over Northern and eastern kingdoms. **Hence pair 3 is correctly matched.**

Q 18.B

- **Currently, there are 25 High Courts in India. Hence, statement 1 is correct.**
- **States and Union Territories having common High Court are**
  - Punjab, Haryana and Chandigarh
  - Assam, Nagaland, Arunachal Pradesh and Mizoram
  - West Bengal and Andaman and Nicobar Islands
  - Maharashtra, Goa and Dadra and Nagar Haveli and Daman and Diu
  - Ladakh, Jammu and Kashmir
  - Kerala and Lakshadweep
  - Tamil Nadu and Puducherry
- Every high court (whether exclusive or common) consists of a chief justice and such other judges as the President may from time to time deem necessary to appoint.
  - **Thus, the Constitution does not specify the strength of a high court and leaves it to the discretion of the president. Accordingly, the President determines the strength of a high court from time to time depending upon its workload. Hence, statement 2 is correct.**
- Qualifications of Judges
- A person to be appointed as a judge of a High Court should have the following qualifications:
  - He should be a citizen of India.
  - He should have held a judicial office in the territory of India for ten years;
  - He should have been an advocate of a high court (or high courts in succession) for ten years.
- **A High Court Judge holds office until he attains the age of 62 years. Hence, statement 3 is not correct.**
    - Any questions regarding his age are to be decided by the president after consultation with the chief justice of India and the decision of the president is final.

Q 19.B

- The ASEAN Regional Plan of Action on Adaptation to Drought (ARPA-AD) 2021-2025 is guided by the **ASEAN Declaration on the Strengthening of Adaptation to Drought, which was adopted at the 37th ASEAN Summit on 12 November 2020**, and informed by the assessment on the drought situation and its implications in each ASEAN Member State in the 1st and 2nd edition of the study on Ready for the Dry Years: Building Resilience to Drought in South-East Asia. **Hence statement 1 is not correct.**
- The ARPA-AD provides a comprehensive regional plan of action to achieve the sustainable management of drought through comprehensively preventing and mitigating its impact on the livelihood of people, natural resources, ecosystem, agriculture, energy, and socio-economic development.
- It consists of nine actions and 26 sub-actions which are structured based on the drought management cycle, coordination, communication, partnership and capacity building at the regional and national level.
- The document was developed with the support of the **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Hence statement 2 is correct.**

Q 20.B

- The Government of India has made hallmarking of gold jewellery mandatory in the country. It is now being implemented by the Bureau of Indian Standards (BIS) in a phased manner.

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Government has also made it mandatory for the introduction of a Hallmark Unique Identification (HUID) number in every piece of jewellery. Hence, statement 2 is correct.

- **HUID is a six-digit alphanumeric code or one that consists of numbers and letters.** It is given to every piece of jewellery at the time of hallmarking and is unique for each piece. **Hence, statement 1 is not correct.**
- Jewellery is stamped with the unique number manually at the Assaying & Hallmarking (A&H) centre. The hallmark consists of three symbols that give some information about the jewellery piece. The first symbol is the BIS logo; the second indicates purity and fineness, and the third symbol is the HUID.
- **HUID gives a distinct identity to each piece of jewellery enabling traceability.** It is critical to the credibility of hallmarking and to help address complaints against adulteration. **Hence, statement 3 is correct.**
- In HUID-based hallmarking, the registration of jewellers is an automatic process with no human interference. In addition to its role in authentication, it also helps check malpractice by members of the trade. According to the Government, it is a secure system and poses no risk to data privacy and security.

Q 21.B

- The glaciers in the Indian Himalayas are divided in three geographical parts, commonly known as the western, central and eastern Himalayas. There are about 15,000 glaciers in the Himalayas. Some of the important glaciers include:
    - The Siachen in Jammu and Kashmir (18,000ft.) near the Karakoram Pass is the longest glacier in the Indian Himalayas. It is 78km long and the source for the Nubra River that waters the Nubra Valley near Leh in the Trans Himalayas. The waters of the Nubra drain into the Shyok River and then into the Indus.
    - **River Yamuna has its origin in the Bandarpunch glacier just above Yamunotri.** Bandarpunch is located at the western edge of the High Himalayan Range. It is part of the Sankari Range and lies within the Govind Pashu Vihar National Park and Sanctuary. **Hence, pair 2 is not correctly matched.**
    - Bara-Sigri glacier which is the second-longest glacier in Himalaya after Gangotri is located in the Chandra Valley of Lahaul. The glacier feeds the Chenab River.
    - Milam and Gangotri are the major glaciers in the state of Uttarakhand. **Milam is situated in the Kumaon Himalayas, originating from the eastern slopes of the Trishuli. The river Gori Ganga has its source here. Hence, pair 3 is not correctly matched.**
    - The 30-km long Gangotri glacier located in the Uttarkashi district of Uttarakhand is the primary source for the holy Ganga. Gomukh is the snout of the Gangotri glacier and it is from here that the Bhagirathi, one of the important streams of the Ganges, flows down to the temple town of Gangotri and beyond.
    - **The river Mandakini**, which is the most important river coming down from the slopes of Kedarnath peak, joins the Alaknanda at Rudraprayag. **The river actually originates from the springs fed by melting snow of Charabari glacier** about one km above Kedarnath temple. **Hence, pair 1 is correctly matched.**
    - **The Zemu glacier is the largest in the Eastern Himalayas in Sikkim. It is at the base of the Kanchendzonga and is one of the sources for the Teesta** that joins the Brahmaputra. **Hence, pair 4 is correctly matched.**

Q 22.D

- **R2 stands for Responsible Recycling** and is a standard specifically created for the electronics recycling industry by Sustainable Electronics Recycling International (SERI). SERI is the housing body and ANSI-accredited Standards Development Organization for the R2 Standard: Responsible Recycling Practices for Use in Accredited Certifications Programs.
- An electronics recycling company that is R2 certified in accordance with this Code of Practices will benefit by **achieving higher profit margins and additional market share** through improvements in its operating systems and processes, and the status bestowed by certification. **Hence statement 1 is correct.**
- An R2-certified company will be able to assure its upstream clients and customers that it takes appropriate measures at its facility **to protect the environment, worker and public health, and data security. Hence statement 2 is correct.**
- Furthermore, an R2-certified company will be able to make the same assurances about each of its "Focus Material" downstream vendors throughout the recycling chain to final disposition.

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responsibly and legally, no matter where in the world the services are provided.

- Finally, and importantly, certification provides assurance that all import and export laws will be complied with**. Hence statement 3 is correct.**

Q 23.B

- The financial account is part of a country's balance of payments. The other two parts are the capital account and the current account.
- **The financial account is a measurement of increases or decreases in international ownership of assets.**
- The financial account reports on the change in total international assets held. **You can find out if the number of assets held increased or decreased. It does not tell you how much in total assets is currently being held. Hence statement 1 is not correct.**
- The financial account is a measurement of increases or decreases in international ownership of assets. The owners can be individuals, businesses, the government, or its central bank. **The assets include direct investments, securities like stocks and bonds, and commodities such as gold and hard currency. Hence statement 2 is correct.**
- The financial account has two main subaccounts. The first is domestic ownership of foreign assets and the second is foreign ownership of domestic assets.
- Domestic Ownership of Foreign Assets- No matter which entity owns the foreign asset, increases subtracts from the financial account.
- **Foreign Ownership of Domestic Assets - When foreigners increase their ownership of a country's assets, it adds to the financial account. Hence statement 3 is correct.**

Q 24.D

- The powers and functions of the Governor can be classified under the following heads:
  - Executive powers.
  - Legislative powers.
  - Financial powers.
  - Judicial powers.
- Under Executive powers, Governor acts as the chancellor of universities in the state. He also appoints the vice-chancellors of universities in the state. **Hence statement 1 is not correct.**
- Under Judicial powers, Governor can grant pardons, reprieves, respites, and remissions of punishment or suspend, remit, and commute the sentence of any person convicted of any offense against any law relating to a matter to which the executive power of the state extends.
  - However, Governor cannot pardon a death sentence. Even if a state law prescribes a death sentence, the power to grant pardon lies with the President and not the governor.
  - **But, the governor can suspend, remit or commute a death sentence. Hence statement 2 is not correct.**
- Governor has to exercise his powers and functions with the aid and advice of the council of ministers headed by the chief minister, except in matters in which he is required to act in his discretion.
- **The governor has constitutional discretion in the following cases:**
  - Reservation of a bill for the consideration of the President.
  - Recommendation for the imposition of the President's Rule in the state.
  - While exercising his functions as the administrator of an adjoining union territory
  - Determining the amount payable by the Government of Assam, Meghalaya, Tripura, and Mizoram to an autonomous Tribal District Council as royalty accruing from licenses for mineral exploration.
  - Seeking information from the chief minister with regard to the administrative and legislative matters of the state.
- **In addition to the above constitutional discretion, the governor, like the president, also has situational discretion (i.e., the hidden discretion derived from the exigencies of a prevailing political situation) in the following cases:**
  - Appointment of the chief minister when no party has a clear-cut majority in the state legislative assembly or when the chief minister in office dies suddenly and there is no obvious successor.
  - Dismissal of the council of ministers when it cannot prove the confidence of the state legislative assembly.
  - **Dissolution of the state legislative assembly if the council of ministers has lost its majority**
- **Not Legislative Council as it is a permanent body. Hence statement 3 is not correct.**

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- **Servants of India Society was formed in 1905, by Gopal Krishna Gokhale,** to unite and train Indians of different ethnicities and religions in welfare work. It was the first secular organization in that country to devote itself to the underprivileged, rural and tribal people, emergency relief work, the increase of literacy, and other social causes.
- During the Swadeshi movement emphasis was given on self-reliance or 'Atmasakti' as a necessary part of the struggle against the British rule. In the pursuit of the same many institutions for education sprang up all over the country within a short period of time. **In August 1906, the National Council of Education was established.** It consisted of distinguished persons of the country with a definite objective of organising education on national lines with chief medium of instruction as vernaculars.
- **In 1907, Congress session was held in Surat at the banks of river Tapi.** The President of this session was Rash Behari Bose. At this session the gradual widening of the differences between the extremists and the moderates which was rising during the Swadeshi Movement culminated into a split of congress between the two.
- **In 1908, in Muzaffarpur, Prafulla Chaki and Khudiram Bose threw a bomb at a carriage which they presumed was carrying and anti-Indian judge, Kingsford.** The conspiracy at Muzaffarpur resulted into the death of two innocent English woman instead. He shot himself dead while Khudiram Bose was tried and hanged.
- **Hence, option (d) is the correct answer.**

Q 26.B

- Agriculture is a State subject. However, the Government of India is implementing a number of Schemes, both Central Sector and Centrally Sponsored, for the benefit of farmers and the agriculture sector as a whole.
- **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) is a Central Sector Scheme with 100% funding from the Government of India.** With a view to providing income support to all land-holding eligible farmer families, the Government has launched PM-KISAN. The scheme aims to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income. **Hence option 1 is not correct.**
- Earlier, under the scheme, the financial benefit has been provided to all Small and Marginal landholder farmer families with total cultivable holding up to 2 hectares with a benefit of Rs.6000 per annum per family payable in three equal installments, every four months.
- Pradhan Mantri Fasal Bima Yojana - It is a **Centrally Sponsored Scheme,** and it replaced the National Agricultural InsuranceScheme (NAIS) and Modified NAIS. The Restructured Weather-Based Crop InsuranceScheme (RWBCIS) is still continued. **Hence option 2 is correct.**
- Pradhan Mantri Kisan Maan-dhan Yojana - It is a **Central Sector Scheme**.This pension scheme is voluntary and contributory. The monthly contribution by farmers ranges between Rs.55 to 200 to the Pension Fund, depending on the age of entry into the Scheme, with matching Contribution by theCentral government. The beneficiaries may opt voluntarily to exit the scheme after a minimum period of five years of regular contributions. On exit, their entire contribution with an interest equivalent to prevailing saving bank rates will be returned. Assured pension of Rs. 3000/- month on attaining the age of 60 years. **Hence option 3 is not correct.**

Q 27.D

- Under Article 351, the Constitution imposes a duty upon the Centre to promote the spread and development of the Hindi language so that it may become the lingua franca of the composite culture of India.
- The Centre is directed to secure the enrichment of Hindi by assimilating the forms, style, and expressions used in Hindustani and in other languages specified in the Eighth Schedule and by drawing its vocabulary, primarily on Sanskrit and secondarily on other languages.
- At present, the Eighth Schedule of the Constitution specifies 22 languages (originally 14 languages). These are Assamese, Bengali, Bodo, Dogri (Dongri), Gujarati, Hindi, Kannada, Kashmiri, Konkani, Mathili (Maithili), Malayalam, Manipuri, Marathi, Nepali, Odia, Punjabi, Sanskrit, Santhali, Sindhi, Tamil, Telugu, and Urdu. **Hence statement 1 is not correct.**
  - Sindhi was added by the 21st Amendment Act of 1967;
  - Konkani, Manipuri, and Nepali were added by the 71st Amendment Act of 1992; and
  - Bodo, Dongri, Maithili, and Santhali were added by the 92nd Amendment Act of 2003. **Hence statement 2 is not correct.**

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regional languages in the Eighth Schedule:
    - The members of these languages are to be given representation in the Official Language Commission.
    - The forms, style, and expression of these languages are to be used for the enrichment of the Hindi language**.**

Q 28.B

- **A debenture is a long-term debt instrument issued by corporations and governments to secure fresh funds or capital.** There is **no collateral or physical assets required to back up the debt,** as the overall creditworthiness and reputation of the issuer suffice.
- Examples of government-issued debentures are **Treasury bonds and Treasury bills.**
- There are two main types of debentures that can be issued:-
- **Convertible debentures** - Interest-bearing bonds that can be converted from debt into equity shares after a specific period of time. This is a special feature that corporations take advantage of because it can attract lenders and usually carries a lower interest rate for the issuing company.
- **Non-convertible debentures** - Regular debt instruments that are not convertible into equity shares. However, to attract lenders and investors, these come with higher interest rates.
- Issue of debentures –
- **The debenture holders are the creditors of the company and are entitled to get interest irrespective of profit earned by the company. Hence statement 1 is correct.**
- **Debenture holders have no right either to vote or take part in the management of the company. Hence, statement 3 is not correct.** So by issuing debentures the company raises the additional capital without diluting the control over its management.
- **Interest paid on debentures is treated as an expense and is charged to the profits of the company**. **Hence statement 2 is correct**. The company thus saves income tax.

Q 29.D

- **On the ruins of the Kushan empire arose a new empire, which established its sway over a good part of the former dominions of both the Kushans and Satavahanas. This was the empire of the Guptas**.
- Although the Gupta empire was not as large as the Maurya empire, it kept north India politically united for more than a century from AD. 335 to 455.
- The Guptas were possibly the feudatories of the Kushans in Uttar Pradesh, and seem to have succeeded them without any wide time-lag.
- **Factors that led to the rise and growth of the Gupta Empire:**
    - In the Kushan scheme of things, horse-chariots and elephants had ceased to be important. Horsemen played the main part in the case with the Guptas. Although some Gupta kings are described as excellent and unrivaled chariot warriors, their basic strength lay In the use of horses. All these gave them mobility and made them excellent horsemen.
    - The Guptas enjoyed certain material advantages. The center of their operations lay in the fertile land of Madhyadesha covering Bihar and Uttar Pradesh. They could exploit the iron ores of central India and south Bihar.
    - Further, they took advantage of their proximity to the areas in north India which carried on silk trade with the Eastern Roman empire. also known as the Byzantine empire.
- **Fa-Hien's account on the Gupta administration provides useful information.**
    - He characterises the Gupta administration as mild and benevolent.
    - There were no restrictions on people's movements and they enjoyed a large degree of personal freedom. There was no state interference in the individual's life.
    - **Punishments were not severe. Imposing a fine was a common punishment. There was no spy system.**
    - The administration was so efficient that the roads were kept safe for travelers, and there was no fear of thieves.
    - He mentioned that people were generally prosperous and the crimes were negligible.
    - Fa-Hien had also appreciated the efficiency of the Gupta administration as he was able to travel without any fear throughout the Gangetic valley.
    - On the whole, the administration was more liberal than that of the Mauryas.
- The Ring-wells were used for the first time under the **rule of Mauryas in the Gangetic plains** which spread out in the provinces beyond the heart of the empire. **Hence statement (d) is not correct.**

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- India is now a land of 47 Ramsar Sites.
- In 2020, five new sites were added into the list.
    1. **Asan Conservation Reserve, Uttarakhand**: The Asan Conservation Reserve is a 444-hectare stretch of the Asan River running down to its confluence with the Yamuna River in Dehradun district of Uttarakhand. The damming of the River by the Asan Barrage in 1967 resulted in siltation above the dam wall, which helped to create some of the Site's bird-friendly habitats. It supports the the critically endangered red-headed vulture (Sarcogyps calvus), white-rumped vulture (Gyps bengalensis) and Baer's pochard (Aythya baeri). Two waterbird species have been recorded, these being red-crested pochard (Netta rufina) and ruddy shelduck (Tadorna ferruginea). Other non-avian species present include Putitor mahseer (Tor putitora). **Hence pair 2 is not correctly matched.**
    2. **Kabartal Wetland, Bihar**: Kabartal Wetland, also known as Kanwar Jheel, is located in the Indo-Gangetic plains in the northern Bihar State. The Site is one of 18 wetlands within an extensive floodplain complex; it floods during the monsoon season to a depth of 1.5 metres. This absorption of floodwaters is a vital service in Bihar State where 70% of the land is vulnerable to inundation. The Wetland is an important stopover along the Central Asian Flyway. Five critically endangered species inhabit the site, including three vultures – the red-headed vulture (Sarcogyps calvus), white-rumped vulture (Gyps bengalensis) and Indian vulture (Gyps indicus) – and two waterbirds, the sociable lapwing (Vanellus gregarius) and Baer's pochard (Aythya baeri).
    3. **Lonar Lake, Maharashtra**: This wetland on the Deccan Plateau is an endorheic or closed basin, almost circular in shape, formed by a meteorite impact onto the basalt bedrock. The lake is high in salinity and alkalinity, as the lack of an outflow leads to a concentration of minerals as the lake water evaporates. Inhabiting the Site are 160 species of birds including the vulnerable Asian woollyneck (Ciconia episcopus) and common pochard (Aythya ferina), 46 species of reptiles, and 12 species of mammals including the iconic grey wolf (Canis lupus). The site lies in Buldhana district in the state of Maharashtra.
    4. **Tso Kar Wetland, Leh-Ladakh (UT)**: This high-altitude wetland complex is found at more than 4,500 metres above sea level in the Changthang region of Ladakh. The complex includes two connected lakes, the freshwater Startsapuk Tso and the larger hypersaline Tso Kar. The name Tso Kar refers to the white salt efflorescence on the margins of the lake caused by the evaporation of the saline waters. Inhabiting the Site are numerous threatened species including the endangered saker falcon (Falco cherrug) and Asiatic wild dog or dhole (Cuon alpinus laniger), and the vulnerable snow leopard (Panthera uncia). The Site also acts as an important stopover ground for migratory birds along the Central Asian Flyway and is one of the most important breeding areas in India for the black-necked crane (Grus nigricollis). **Hence pair 1 is correctly matched.**
    5. **Sur Sarovar, Uttar Pradesh:** Sur Sarovar, also known as Keetham Lake, is a human-made reservoir; originally created to supply water to the city of Agra in summer. Threatened species include the vulnerable greater spotted eagle (Clanga clanga), sarus crane (Grus antigone) and catfish Wallago attu. The Site is important for bird species which migrate on the Central Asian flyway. Over 1% of the South Asian regional population of the greylag goose (Anser anser) is present. **Hence pair 3 is correctly matched.**
- Four more sites - two each from Haryana and Gujarat - were recognized as wetlands of international importance under the Ramsar Convention.
- Sultanpur National Park and Bhindawas Wildlife Sanctuary both in Haryana have been added to the list this year. Apart from that, Thol and Wadhwana from Gujarat too have now become a part of the convention.

Q 31.A

- There were several other regional and caste movements like the **Kayasth Sabha in Uttar Pradesh** and the **Sarin Sabha in Punjab**. The backward castes also started the work of reformation with the **Satya Sodhak Samaj in Maharashtra**, the Sri Narayana Dharma Paripalana Sabha in Kerala, **Nadar movement in Tamil Nadu and Aravipuram movement in Kerala**.
- Jyotiba Phule was an activist, thinker and social reformer from **Maharashtra founded the Satya Shodhak Samaj in 1873 in Maharashtra**. Its main aim was (a) social service, and (b) the spread of education among women and lower caste people. **Hence pair 1 is correctly matched.**
- **Aravipuram Movement was launched by Sri Narayana Guru on Shivaratri day of 1888 in Kerala.** Sri Narayana Guru defied the religious restrictions traditionally placed on the Ezhava community, and consecrated an idol of Shiva at Aravipuram. **Hence pair 2 is not correctly matched.**

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caste considered themselves as the creation of Brahma from his body (Kaya). **Hence pair 3 is correctly matched.**

- **Nadar Movement** –It was a movement in the **Ramnad district of Tamil Nadu**. **Hence pair 4 is not correctly matched.**
- An untouchable caste originally called 'shahans' emerged as a prosperous mercantile class and began to call themselves by the prestigious title of 'Nadars' to claim Kshatriya status.

Q 32.A

- Aryabhatta, born in 476 A.D., was the greatest astronomer of the Gupta period.
- The Indians were first to use the decimal system. The famous mathematician Aryabhata was acquainted with it.
- The book of Aryabhata is known as Aryabhatiya - a text dealing with astronomy and mathematics
- Another great achievement to Aryabhatta's credit was the construction of trigonometric tables. He **computed trigonometric tables geometrically by finding the rule for finding the area of a triangle** and used the values of 'sine' and 'cosine' in his astronomical calculations. Besides these, he developed formulas for the sum of arithmetic and geometric series. **Hence statement 1 is correct.**
- **Aryabhatta I had earth centric view of the Universe i.e. planets moved around the earth in epicycles.**
- Theory of eclipses – he rejected the belief that eclipses are caused by demons rahu and ketu , but by moon coming within the earth's shadow or between the earth and sun. Thus, **he gave a scientific explanation for the occurrence of solar and lunar eclipses as opposed to the prevailing ideas that Rahu and Ketu caused eclipses. Hence statement 3 is correct.**
- **He was the first to discover that earth rotated on its own axis. Hence statement 2 is correct.**
- He found out the sine functions and used them in astronomy.
- He worked out the correct equation for calculating the orbit of planet and gave us an extremely accurate estimate of length of year (365.2586805 days).
- He is known as the father of algebra – solved a number of complex equations.

Q 33.D

- Recently inaugurated by the Prime Minister, The Saryu Nahar National Project was built at a total cost of more than Rs 9,800 crore, out of which more than Rs 4,600 crore was provisioned in the last four years. **It also involves the interlinking of five rivers - Ghaghara, Saryu, Rapti, Banganga, and Rohini to ensure optimum usage of water resources of the region. Hence option (d) is the correct answer**
- It will benefit nine districts of Eastern Uttar Pradesh namely - Bahraich, Shravasti, Balrampur, Gonda, Siddharthnagar, Basti, Sant Kabir Nagar, Gorakhpur, and Maharajganj, as per government statement. **The project was brought under Pradhan Mantri Krishi Sinchayee Yojana in 2016 with the target to complete it in a time-bound manner.**

Q 34.D

- To tackle the scourge of political defection, in 1969, a committee chaired by Home Minister Y B Chavan examined the issue of defection. It observed that after the 1967 general elections, defections changed the political scene in India as 176 of 376 independent legislators later joined a political party.
- **However, the committee did not recommend any action against independent legislators or any framework for enacting Anti Defection Law.**
- **In the absence of a recommendation on this issue by the Chavan committee, the initial attempts at creating the anti-defection law did not materialize.**
- The next legislative attempt, in 1978, allowed independent and nominated legislators to join a political party once.
- With rising public opinion for an anti-defection law, immediately after securing a clear majority in 1984, the Rajiv Gandhi's government proposed the new anti-defection bill in the Parliament. After marathon debates, both the Lok Sabha and Rajya Sabha unanimously approved the bill and through the 52nd amendment to the Constitution of India, the Tenth Schedule was inserted into the constitution. **Hence, statement 1 is not correct.**
- The Tenth Schedule contains the following provisions with respect to the disqualification of members of Parliament and the state legislatures on the ground of defection:
    - **Members of Political Parties: A member of a House belonging to any political party becomes disqualified for being a member of the House,**
        - **if he voluntarily gives up his membership of such political party or**

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political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.

- In the case of 'voluntarily giving up his membership,' the Supreme Court has interpreted that in the absence of a formal resignation by the member, the giving up of membership can be inferred by his conduct. In other judgments, members who have publicly expressed opposition to their party or support for another party were deemed to have resigned.
- Thus, a legislator's speech and conduct inside and outside the legislature can lead to disqualification under the anti-defection law. **Hence, statement 2 is not correct.**
  - Independent Members: An independent member of a House (elected without being set up as a candidate by any political party) becomes disqualified to remain a member of the House if he joins any political party after such election.
  - Nominated Members: A nominated member of a House becomes disqualified for being a member of the House if he joins any political party after the expiry of six months from the date on which he takes his seat in the House. This means that he may join any political party within six months of taking his seat in the House without inviting this disqualification.

- **Exceptions**
  - The above disqualification on the ground of defection does not apply in the following two cases:
    - If a member goes out of his party as a result of a merger of the party with another party. A merger takes place when two-thirds of the members of the party have agreed to such a merger.
    - If a member, after being elected as the presiding officer of the House, voluntarily gives up the membership of his party or rejoins it after he ceases to hold that office. This exemption has been provided in view of the dignity and impartiality of this office.
- The Anti-Defection Law does not specify a time period for the Presiding Officer to decide on a disqualification plea. Given that courts can intervene only after the Presiding Officer has decided on the matter, the petitioner seeking disqualification has no option but to wait for this decision to be made. **Hence, statement 3 is not correct.**

Q 35.A

- Foreign Direct Investment (FDI) is considered a major source of non-debt financial resource for economic development. FDI flows into India have grown consistently since liberalization and are an important component of foreign capital since FDI infuses long term sustainable capital in the economy and contributes towards technology transfer, development of strategic sectors, greater innovation, competition and employment creation amongst other benefits.
- The Government has put in place a policy framework on FDI, which is transparent, predictable and easily comprehensible. The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, Government of India makes policy pronouncements on FDI through Consolidated FDI Policy Circular/Press Notes/Press Releases which are notified by the Department of Economic Affairs (DEA), Ministry of Finance, Government of India as amendments to the Foreign Exchange Management (Non-Debt Instruments) Rules, 2019 under theForeign Exchange Management Act, 1999.
- FDI is prohibited in:
  - Lottery Business including Government/private lottery, online lotteries, etc.
  - Gambling and Betting including casinos etc.
  - **Chit funds**
  - **Nidhi company**
  - Trading in Transferable Development Rights (TDRs)
  - Real Estate Business or Construction of Farm Houses 'Real estate business' shall not include development of townships, construction of residential /commercial premises, roads or bridges and Real Estate Investment Trusts (REITs) registered and regulated under the SEBI (REITs) Regulations 2014.
  - Manufacturing of cigars, cheroots, cigarillos and cigarettes, of tobacco or of tobacco substitutes.
  - Activities/sectors not open to private sector investment e.g. Atomic Energy and Railway operations
- Through Insurance Amendment Bill 2021 **the foreign direct investment (FDI) limit has increased in the insurance sector to 74% from 49%.**
- **Twenty per cent of FDI is allowed in Public sector banks under the government approval route.** Private banks have a higher FDI cap at 74 per cent via automatic route, provided there is no change of control and management.
- **Hence, option (a) is the correct answer.**

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- Currently, SDR basket includes five currencies:
  - U.S. dollar,
  - Euro,
  - Yen,
  - Renminbi and
  - Pound sterling
- **Hence, option (c) is the correct answer.**

Q 37.B

- In India, the amount to be deposited by a general candidate who is contesting elections to Lok Sabha is 25000 rupees and for SC and ST candidates it is 12500 rupees. This was done in order to check the multiplicity of non-serious candidates. **Hence, statement 1 is not correct.**
- **In order to facilitate the electors in identifying the candidates, the Election Commission of India has prescribed an additional measure by way of adding a provision for printing the photograph of candidate on the ballot paper to be displayed on the EVM (Ballot Unit) and on Postal Ballot Papers.**
  - This is to help avoid any confusion, which may arise when candidates with the same or similar names contest from the same constituency. For this purpose, the candidates are required to submit to the Returning Officer, their recent stamp size photograph as per the specifications laid down by the Commission. **Hence, statement 2 is correct.**
- **As per section 62(5) in the Representation of the People Act, 1951 :**
  - **No person shall vote at any election if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police:**
  - Provided that nothing in this sub-section shall apply to a person subjected to preventive detention under any law for the time being in force.
- Thus a person whether convicted or not cannot vote at any election if he is confined in a prison. **Hence, statement 3 is not correct.**

Q 38.A

- **Provisions of Communal Award (1932):**
  - The Award allotted to each minority a number of seats in the legislatures to be elected on the basis of a separate electorates which were given to Muslims, Europeans, Sikhs, Indian Christians, Anglo-Indians, depressed classes, women and even to the Marathas for some seats in Bombay. Such an arrangement for the depressed classes was to be made for a period of 20 years. **Hence, statement 1 is correct.**
  - In the provincial legislatures, the seats were to be distributed on communal basis.
  - The existing seats of the provincial legislatures were to be doubled.
  - The Muslims, wherever they were in minority, were to be granted a weightage.
  - The depressed classes to be declared/accorded the status of minority.
  - The depressed classes were to get 'double vote', one to be used through separate electorates and the other to be used in the general electorates. **Hence, statement 2 is correct.**
  - Allocation of seats were to be made for laborers, landlords, traders and industrialists.
  - In the province of Bombay, 7 seats were to be allocated for the Marathas.
  - **Except in the North West Frontier Province**, 3 per cent seats were to be reserved for women in all provinces. **Hence, statement 3 is not correct.**

Q 39.D

- **An NFT is a digital asset that exists on a blockchain. The blockchain serves as a public ledger, allowing anyone to verify the asset's authenticity and ownership.**
- So unlike most digital items which can be endlessly reproduced, **each NFT has a unique digital signature, meaning it is one of a kind. Hence statement 1 is correct.**
- **NFTs are usually bought with the cryptocurrency Ether or in dollars and the blockchain keeps a record of transactions Hence statement 2 is correct**. While anyone can view the NFTs, the buyer has the status of being the official owner - a kind of digital bragging right.
- **All kinds of digital objects - images, videos, music, text and even tweets - can be turned into an NFT.**
- An auction for the first-ever tweet from Twitter boss Jack Dorsey - **"just setting up my twttr" - ends on March 21. Hence statement 3 is correct.**

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more income from NFTs, as they can get a royalty each time the NFT changes hands after the initial sale.

Q 40.A

- **Pithoro painting:** Painted by **Rathva Bhils of the Panchmahal region in Gujarat** and Jhabua in the neighbouring State of **Madhya Pradesh**, these paintings are done on the walls of houses to mark special or thanksgiving occasions. These are **large wall paintings**, representing rows of numerous and magnificently coloured deities depicted as **horse riders.**
- The rows of horse rider deities represent the **cosmography of the Rathvas.** The uppermost section with riders represents the world of gods, heavenly bodies and mythical creatures. An ornate wavy line separates this section from the lower region, where the **wedding procession of Pithoro** is depicted with minor deities, kings, goddess of destiny, an archetypal farmer, domestic animals, and so on, which represent the earth.
- **Hence option (a) is the correct answer.**

Q 41.C

- Mandamus: Writ of Mandamus means "We Command" in Latin. This writ is issued for the correct performance of mandatory and purely ministerial duties and is issued by a superior court to a lower court or government officer. Mandamus can be issued when the Government denies to itself a jurisdiction which it undoubtedly has under the law, or where an authority vested with a power improperly refuses to exercise it.
- Mandamus can be issued to any kind of authority in respect of any type of function – **administrative, legislative, quasi-judicial, and judicial.** Mandamus is used to enforce the performance of public duties by public authorities. **Mandamus is not issued when the Government is under no duty under the law.** When an authority fails in its legal duty to implement an order of a tribunal, a mandamus can be issued directing the authority to do so. **Hence all the options are correct.**
- Thus, when the appellate transport tribunal accepted the applications of the petitioner for grant of permits, mandamus was issued to the concerned authority to issue the permits to the petitioner in terms of the tribunal order. Mandamus is issued to enforce a mandatory duty which may not necessarily be a statutory duty.

Q 42.C

- Dead Sea, also called Salt Sea, landlocked salt lake between Israel and Jordan in southwestern Asia. Its eastern shore belongs to Jordan, and the southern half of its western shore belongs to Israel. It is situated between the hills of Judaea to the west and the Transjordanian plateaus to the east The Jordan River, from which the Dead Sea receives nearly all its water, flows from the north into the lake.
- The Dead Sea has the lowest elevation and is the **lowest body of water on the surface of Earth**. For several decades in the mid-20th century, the standard value given for the surface level of the lake was some 1,300 feet (400 metres) below sea level. **The Dead Sea (Salt Sea in Hebrew) is the deepest hypersaline lake in the world, 27 times denser than Utah's Great Salt Lake**. **Hence option (c) is the correct answer.**
- **Dead Sea has been shrinking at an alarming pace, losing more than a meter (some 40 inches) of water per year for a total of 25 meters since the 1990s.** Giant sinkholes have swallowed up several beaches. The main problem is a lack of freshwater coming into the Dead Sea, in which natural evaporation is strong. This happened because the landlocked Dead Sea primarily depends on the lower Jordan River, which in turn depends on the Sea of Galilee (Lake Kinneret), to get replenished. Much of this freshwater has been diverted to provide for drinking, farming and industry in Israel and Jordan. A lesser factor is the mineral-extraction industries in Israel and Jordan. Potassium chloride and magnesium chloride are mined in large quantities. The evaporation ponds used in this process are responsible for about 35 percent of the depletion of the Dead Sea.

Q 43.D

- Recently, Parliament passed the Juvenile Justice (Care and Protection of Children) Amendment Bill, 2021. The bill sought to amend the Juvenile Justice Act, 2015.
- The bill amends the following provisions:
- **Serious Offences:** Serious offences are going to include offences for which maximum punishment is imprisonment of more than seven years, and minimum punishment is not prescribed or is of less than seven years.

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time being, is imprisonment between three and seven years.
    - **Non-cognizable and non-bailable offences:** The present Act provides that an offence which is punishable with imprisonment between three to seven years to be cognizable (where the arrest is allowed without a warrant) and non-bailable. The Bill amends this to provide that such offences will be **non-cognizable (and non-bailable).**
    - Non-cognizable and Where an offence, under this Act is punishable with imprisonment for less than three years or with a fine only, then, such offence shall be **non-cognizable and bailable.**
    - Where an offence under this Act is punishable with imprisonment for a term of more than seven years, then, **such offence shall be cognizable and non-bailable. Hence statement 2 is not correct.**
- **Adoption:** Presently, the adoption order issued by the court establishes that the child belongs to the adoptive parents. The Bill provides that instead of the court, the District Magistrate (including Additional District Magistrate) will issue such adoption orders. **Hence statement 1 is not correct.**

Q 44.D

- The 2021 Nobel Prize in Physiology or Medicine was awarded jointly to David Julius and Ardem Patapoutian for their discoveries of receptors for temperature and touch. These discoveries are instrumental to our understanding of physiology and may lead to the development of new treatments for pain disorders.
- Mammalian species have always needed to regulate body temperature to survive. But to do so, they must be able to sense and perceive the temperature of their environment. Scientists have long understood how to sense stimuli through sight and hearing, but the understanding of temperature and touch was a mystery until the discovery of transient receptor potential protein channels.
- **The transient receptor potential cation channel subfamily V member 1 (TRPV1) protein causes us to sense hot and painful sensation**. Until the discovery of the TRPV1 channel protein by Julius, it was unclear what exactly was the causes a hot enough chili pepper to bring tears to the eyes.
- The discovery of the TRPV1 channel protein's role in heat and pain detection later proved to be instrumental in identifying the other channel proteins responsible for sensing temperature. **TRPM8 is the receptor for menthol responsible for sensing the cold.**
- **Hence, option (d) is the correct answer.**

Q 45.A

- Biomass is a renewable energy resource derived from carbonaceous waste of various human and natural activities. **It is derived from numerous resources including timber industries, agriculture crops, residue from forestry or agriculture, oil rich algae, organic component of municipal and industrial waste.**
- Biomass energy is energy generated or produced by living or once-living organisms. The most common biomass materials used for energy are plants, such as corn and soy, above. The energy from these organisms can be burned to create heat or converted into electricity.
- It is a good substitute for conventional fossil fuels and releases the same amount of carbon dioxide on burning as burning fossil fuels. However, **fossil fuels release carbon dioxide captured by photosynthesis over its formative years on the other hand biomass is formed by atmospheric carbon dioxide that does not increase quantity of carbon dioxide in the atmosphere making it carbon neutral. The carbon dioxide released by biomass is balanced by the carbon dioxide captured in its own growth. Hence option (a) is the correct answer.**
- Burning biomass releases carbon monoxide, carbon dioxide, nitrogen oxides, and other pollutants and particulates. If these pollutants are not captured and recycled, burning biomass can create smog.

Q 46.B

- After independence, India launched its First FYP in 1951, under socialist influence of first Prime Minister Jawaharlal Nehru. The process began with setting up of Planning Commission in March 1950 in pursuance of declared objectives of the Government to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country, increasing production and offering opportunities to all for employment in the service of the community.
- First Plan (1951 - 56) ; Target Growth : 2.1 % ; Actual Growth 3.6 %
    - It was based on Harrod-Domar Model. Influx of refugees, severe food shortage & mounting inflation confronted the country at the onset of the first five year Plan. The Plan Focussed on agriculture, price stability, power and transport It was a successful plan primarily because of good harvests in the last

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prices were more or less achieved.

- Second Plan (1956 - 61) ;**Target Growth: 4.5% ; Actual Growth: 4.3%; Hence, statement 3 is not correct.**
  - The strategy of resource allocation to broad sectors as agriculture & Industry was based on the two & four sector Model prepared by Prof. P C Mahalanobis. (Plan is also called Mahalanobis Plan). **The Plan Focussed on rapid industrialization- heavy & basic industries. Hence, statement 2 is correct.**
  - Advocated huge imports through foreign loans. The Industrial Policy 1956 was based on the establishment of a socialistic pattern of society as the goal of economic policy. Acute shortage of forex led to pruning of development targets, price rise was also seen (about 30%) vis a vis decline in the earlier Plan & the 2nd FYP was only moderately successful.
- Third Plan (1961 - 66); Target Growth: 5.6% ; Actual Growth: 2.8%
  - At its conception, it was felt that Indian economy has entered a "takeoff stage". **Therefore, its aim was to make India a 'self-reliant' and 'self-generating' economy.** The Plan was thorough failure in reaching the targets due to unforeseen events - Chinese aggression (1962), Indo-Pak war (1965), severe drought 1965-66. Due to conflicts the approach during the later phase was shifted from development to defence & development. **Hence, statement 1 is not correct.**

Q 47.D

- The International Organization for Standardization defines Engineered Nanomaterials, or ENMS, as materials with **external dimensions between 1 and 100nm**, the nanoscale, or having an internal surface structure at these dimensions.
- Products containing nanoparticles such as **cosmetics, coatings, paints, and catalytic additives** can release nanoparticles into the environment in different ways.
- The main ways through which nanoparticles enter the environment are as follows:
  - The first is emission during the **production of raw materials such as mining and refining operations. Hence option 3 is correct.**
  - The second is emission during use, like **cosmetics or sunblock getting washed into the environment. Hence option 2 is correct.**
  - The third is emission after disposal of nanoparticle products or use during waste treatment, like nanoparticles in sewage and wastewater streams.
- Nanoparticles occur naturally in the environment in large volumes.
  - For example, the sea emits an aerosol of salt that ends up floating around in the atmosphere in a range of sizes, from a few nanometres upward, and **smoke from volcanoes and fires** contains a huge variety of nanoparticles, many of which could be classified as dangerous to human health. **Hence option 1 is correct.**

Q 48.B

- **Kaiser-i-Hind (Teinopalpus imperialis)** literally means Emperor of India.
  - This butterfly with a 90-120 mm wingspan is found in six states along the Eastern Himalayas at elevations from 6,000-10,000 feet in well-wooded terrain.
  - The butterfly also flutters in Nepal, Bhutan, Myanmar, Laos, Vietnam and southern China.
  - It is all set to become the **State butterfly of Arunachal Pradesh. Hence pair 1 is not correctly matched.**

- Maharashtra had become the first state in the country to have a 'State butterfly.'
  - **Blue Mormon (Papilio polymnestor) is the State butterfly of Maharashtra. Hence pair 2 is correctly matched.**

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restricted to the Western Ghats of Maharashtra, South India and coastal belts.
    - It may occasionally be spotted in the Maharashtrian mainland between Vidarbha and Western Maharashtra.
    -
- Uttarakhand had become the second state after Maharashtra to get a **state butterfly after the Papilio bianor (Common Peacock)** was awarded the status. **Hence pair 3 is correctly matched.**

Q 49.A

- There is no uniformity in the organization of state legislatures. Most of the states have a unicameral system, while others have a bicameral system. At present only six states have two Houses (bicameral). **These are Andhra Pradesh, Telangana, Uttar Pradesh, Bihar, Maharashtra, and Karnataka. Hence, statement 1 is correct.**
- Uttar Pradesh is the largest legislative assembly in India at present with 403 MLA seats. West Bengal with 294 MLA seats is the second largest legislative assembly in the country. Maharashtra with MLA 288 seats is the third-largest legislative assembly in the country. However, Maharashtra (48) has more Lok Sabha seats than West Bengal (42). **Hence, statement 2 is not correct.**
- **Article 169: Abolition or creation of Legislative Councils in States**

  (1) Notwithstanding anything in Article 168, Parliament may by law provide for the abolition of the Legislative Council of a State having such a Councilor for the creation of such a Council in a State having no such Council, if the Legislative Assembly of the State passes a resolution to that effect by a majority of the total membership of the Assembly and by a majority of not less than two-thirds of the members of the Assembly present and voting

  (2) Any law referred to in clause (1) shall contain such provisions for the amendment of this Constitution as may be necessary to give effect to the provisions of the law and may also contain such supplemental, incidental and consequential provisions as Parliament may deem necessary

  (3) No such law as aforesaid shall be deemed to be an amendment of this Constitution for the purposes of Article 368.
- Hence, provisions under Article 169 for legislative council extend to only the states not to the union territories with legislative assemblies**. Hence, statement 3 is not correct.**

Q 50.B

- The border between the virtual and real-world continues to break down, providing breathtaking experiences. Virtual Reality can be used as an umbrella term to describe other technologies similar to, but different from, an actual Virtual Reality experience.
- **Virtual Reality (VR)**
    - VR technology immerses users in a completely virtual environment that is generated by a computer. **Users experience a digital environment and are unaware of what occurs in the physical environment around them.**
    - Using a head-mounted display (HMD) or headset, one can experience a computer-generated world of imagery and sounds in which you can manipulate objects and move around using haptic controllers.

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- AR overlays digital information on real-world elements. **Users remain present in their physical environment and are never made to believe they have left that environment. Hence, statement 1 is not correct.**
- Augmented reality keeps the real-world central but enhances it with other digital details, layering new strata of perception, and supplementing your reality or environment.
- Pokémon GO* is among the best-known examples.

- **Mixed Reality (MR)**
  - **MR brings together real-world and digital elements. These experiences blend the real world and the digital world.** For example, With Mixed Reality (MR), one can play a virtual video game, grab a real-world water bottle, and smack an imaginary character from the game with the bottle. Imagination and reality have never been so intermingled.
  - **In mixed reality, one can interact with and manipulate both physical and virtual items and environments simultaneously, using next-generation sensing and imaging technologies. Hence, statement 2 is correct.**
  - It provides the ability to have one foot in the real world, and the other in an imaginary place, breaking down basic concepts between real and imaginary, offering an experience that can change the way you game and work today.
- VR can be experienced using immersive VR headsets and AR using holographic AR headsets. But MR headset devices include both holographic and immersive technologies.

Q 51.D

- **Diwan-i Kul was the chief diwan.** He was responsible for revenue and finances. Akbar had strengthened the office of diwan by entrusting the revenue powers to the diwan. The diwan used to inspect all transaction and payments in all departments and supervised the provincial diwans. **Hence statement 1 is not correct.**
  - The entire revenue collection and expenditure of the empire was under his charge. The diwans were to report about state finance to the Emperor on daily basis.
- **Mir Bakshi** looked after all **matters pertaining to the military administration.** The orders of appointment of mansabdars and their salary papers were endorsed and passed by him. He kept a strict watch over proper maintenance of the sanctioned size of armed contingents and war equipage by the mansabdars. The new entrants seeking service were presented to the Emperor by the Mir Bakshi.
- The **Sadr-us Sudur was the head of the ecclesiastical department.** His chief duty was to protect the laws of the Shariat. The office of the Sadr used to distribute allowances and stipends to the eligible persons and religious institutions. It made this office very lucrative during the first twenty-five years of Akbar's reign. This officer also regulated the matters of revenue free grants given for religious and charitable purposes. Later several restrictions were placed on the authority of the Sadr for award of revenue free grants also. **Hence statement 3 is not correct.**
- Muhtasibs (censors of public morals) were appointed to ensure the general observance of the rules of morality. He also used to examine weights and measures and enforce fair prices etc.
- **The Mir Saman** was the officer in-charge of the **royal Karkhanas**. He was responsible for all kinds of purchases and their storage for the royal household. He was also to supervise the manufacturing of different articles for the use of royal household. **Hence statement 2 is not correct.**

Q 52.B

- The global Circular Electronics Partnership (CEP) is the first time business leaders and global organizations have come together to design circular solutions for electronics.
- With electronic brands worth nearly $6 trillion in total market cap, the alliance includes leading brands like Accenture, Cisco, Close the Loop, Dell Technologies, Glencore, Google, KPMG International, Lanxess, Microsoft, Security Matters, Sims Limited and Vodafone.
- These companies have been brought together by convening organizations including the **World Economic Forum (WEF), Global Electronics Council (GEC), Global Enabling Sustainability Initiative (GeSI), Platform for Accelerating the Circular Economy (PACE), Responsible Business Alliance (RBA), and World Business Council for Sustainable Development (WBCSD). Hence statement 1 is not correct.**
- CEP's vision aims to **maximize the value of components, products and materials** throughout their full lifecycles by utilizing safe and fair labour that only relies on circular resources**. Hence statement 2 is correct.**

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- Defining circular electronic products and services
- Mobilizing a global, sustainable and circular procurement commitment
- Developing a responsible recycling and circular material data system
- Piloting two material track and trace projects
- **Commercial financing mechanisms for increased collection.**

Q 53.C

- The Rajya Sabha or the Council of States is the upper house of the Parliament of India. It represents the states and union territories of the Indian Union.
- **On 23 August 1954, the Chairman, Rajya Sabha made an announcement in the House that the Council of States would now be called 'Rajya Sabha' in Hindi. Hence, statement 1 is not correct.**
- Article 80 of the Constitution lays down the maximum strength of Rajya Sabha as 250, out of which 12 members are nominated by the President and 238 are representatives of the States and of the two Union Territories.
  - The present strength of Rajya Sabha, however, is 245, out of which 233 are representatives of the States and Union territories of Delhi and Puducherry and 12 are nominated by the President.
  - The members nominated by the President are persons having special knowledge or practical experience in respect of such matters as literature, science, art, and social service.
- The Fourth Schedule to the Constitution provides for the allocation of seats to the States and Union Territories in Rajya Sabha. The allocation of seats is made on the basis of the population of each State.
- **In independent India, Rajya Sabha met for the first time on 13 May 1952 under the Chairmanship Dr. S. Radhakrishnan. Hence, statement 2 is correct.**
- **S.V.Krishnamoorthy Rao was the first Deputy Chairman of Rajya Sabha.**
  - S. V. Krishnamoorthy Rao was born on 15 November 1902 in Shimoga, Karnataka.
  - Rao started the National Educational Society at Shimoga which ran multiple high schools and middle schools.
  - Rao was imprisoned for 18 months in connection with the 1942 Quit India movement and took part in the Mysore Struggle - a movement that demanded the responsible government for Mysore. He was an active member of the Congress Party's political pursuits while simultaneously practicing as an advocate
  - Rao was the first Deputy Chairman of the Rajya Sabha (31 May 1952- 1 March 1962). He also served as a Deputy Speaker in the Lok Sabha from 1962. **Hence, statement 3 is correct.**

Q 54.D

- The Cabinet Secretary is the top-most executive official and senior-most civil servant of the Government of India. The Cabinet Secretary is the ex-officio head of the Civil Services Board, the Cabinet Secretariat, and all civil services under the rules of business of the government**.**
  - **Thus Cabinet Secretary is the Chairman of the Civil Services Board, not the Vice-Chairman. Hence, statement 1 is not correct.**
- The Cabinet Secretary is the senior-most cadre post of the Indian Administrative Service, ranking eleventh (11) on the Indian order of precedence while the judge of a Supreme Court is ranked nine (9)**. Hence, statement 2 is not correct.**
  - **However, there is no such criterion of minimum service of one year remaining to be appointed as Cabinet Secretary.**
  - **The Cabinet Secretary is under the direct charge of the Prime Minister.**

Q 55.D

- **The Kakatiyas were earlier feudatories of Western Chalukyas**. All three contemporary dynasties of Deccan i.e., Hoysalas, Yadavas and Kakatiyas were feudatories of Western Chalukyas.
  - The independent dynasty was established when Rudradeva (Prataparudra I) became first independent ruler of Kakatiya dynasty in 1158AD.
  - Warangal was the capital of Kakatiyas. They faced Islamic invasion from 1310 (by Alauddin Khilji) and ultimately came under control of Delhi Sultanate in 1323 (invasion by Sultan Ghiyasuddin Tughlaq).
- **Architecture:**
  - **Rudreswara Temple: also known as VeyyisthambalaGudi (Thousand pillar temple) in Telugu is one of the earliest structures of Kakatiya architecture.**

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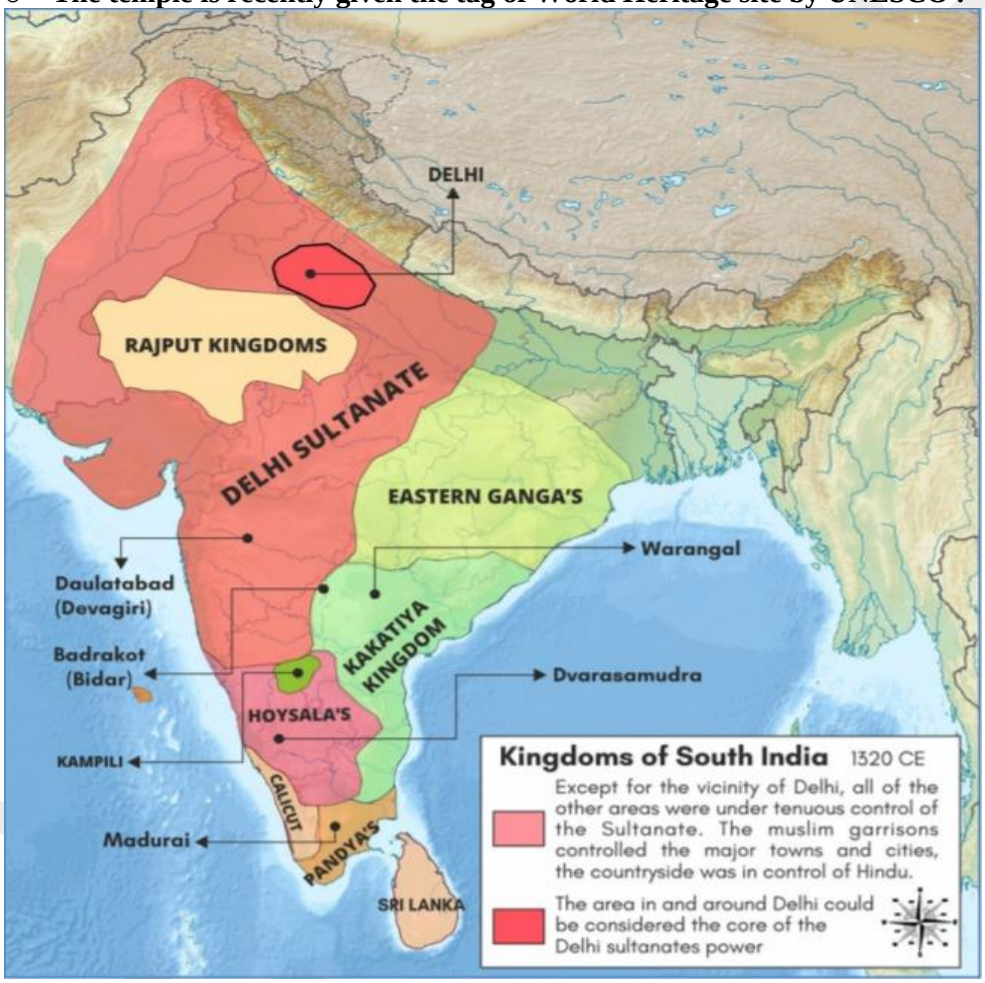
Surya. Hence statement 1 is correct.

- The temple is known for its richly carved pillars, perforated screens, special icons like rock-cut elephants and monolithic Nandi.

- The temple was desecrated by the rulers of Tughlaq dynasty during their invasion of the Deccan region.
- **Golconda Fort in Hyderabad (Telangana) was also constructed by the Kakatiya rulers. Later, it became the capital of the Qutb Shahi kings, who ruled from CE 1518-1687. Hence statement 2 is correct.**
- **Ramappa Temple:** It is situated in Palampet Village, around 67 km from the city of Warangal. It is dedicated to Lord Shiva. : It is the only temple in India known by the name of the sculptor who built it, rather than after the presiding deity
- **It was built on behalf of the king, Kakati Ganapathi Deva by his chief commander Rudra Samani.**
- The temple, known for its exquisite craftsmanship and delicate relief work, is savvy blend of technical know-how and materials of its time. **The foundation is built with the "sandbox technique", the flooring is granite and the pillars basalt. Hence statement 3 is correct**
- The sculptural work of dance postures in the temple were great inspiration for the famous work 'Nritya Ratnavali', by Jayapa Senani.
- **The temple is recently given the tag of World Heritage site by UNESCO .**



Q 56.C

- **Colony Collapse Disorder** (CCD) is the phenomenon that occurs when the **majority of worker bees in a colony disappear** and leave behind a queen, plenty of food and a few nurse bees to care for the remaining immature bees and the queen. **Hence option (c) is the correct answer.**
- Cross pollination helps at least 30% of the worlds crop and 90% of our white plants to thrive. Reduction of the population has been seen in the history I am known by the name such as disappearing disease, spring dwindle, may disease etc. **Thugh the mechanisms of CCD are still unknown, but currently there are many considerations for the cause of this such as pesticides, mites, fungi, beekeeping**

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queens, starvation, other pathogens, and immunodeficiencies.

Q 57.C

- **Kesariya Stupa is a Buddhist stupa in Kesariya, located at a distance of 110 kilometers from Patna, in the East Champaran district of Bihar, India.**
- The first construction of this Stupa is dated to the 3rd century BC.
- Kesariya Stupa has a circumference of almost 400 feet and raises to a height of about 104 feet. The stupa is said to be the tallest and the largest Buddhist stupa in the world and is one ft taller than the famous Borobodur Stupa in Java.
- Two great foreign travelers, Faxian (Fahien) and Xuan Zang (Hsuan Tsang), had visited this place in ancient times and have left interesting and informative accounts of their travels. They have written at length about Kesaria's unique geographical location, cultural vibrancy, and ancient heritage.
- In ancient times, Kesaria was under the rule of the Mauryas and the Licchavis. The current stupa dates to the Gupta Dynasty between 200 AD and 750 AD. The local people call this stupa "Devala", meaning "house of god".
- **Hence, option (c) is the correct answer.**

Q 58.A

- The MSP is the rate at which the government purchases crops from farmers, and is based on a calculation of at least one-and-a-half times the cost of production incurred by the farmers.
- The MSP is fixed on the recommendations of the Commission for Agricultural Costs and Prices (CACP). The CACP is a statutory body and submits separate reports recommending prices for Kharif and Rabi seasons.
- The Cabinet Committee on Economic Affairs (CCEA) of the Union government takes a final decision on the level of MSPs and other recommendations made by CACP
- Initially, MSP covered paddy, rice, wheat, jowar, bajra, maize, ragi (Finger Millet), barley, gram, tur, moong, urad, sugarcane, groundnut, soybean, sunflower seed, rapeseed and mustard, cotton, jute and tobacco. From 1994-95 onwards, Nigerseed and Sesame were included under MSP Scheme of CACP, in addition to the edible oilseeds already covered by the Commission. Similarly, during 2001-2002, the government enhanced the terms of reference of the Commission by including lentil (masur).
- The Centre currently announces the MSPs of 23 crops. They include 7 cereals (paddy, wheat, maize, bajra, jowar, ragi and **barley**), 5 pulses (chana, tur/arhar, moong, urad and masur), 7 oilseeds (rapeseed-mustard, **groundnut**, **soyabean**, sunflower, sesamum, safflower and nigerseed) and 4 commercial crops (sugarcane, **cotton**, copra and raw jute). **Hence, option (a) is the correct answer.**

Q 59.C

- The earliest centre of revolutionary activities outside India was started in England itself. **Shyamji Krishnavarma, a Barrister from Gujarat, who had settled down in England in 1897 started a revolutionary society called the Indian Home Rule Society (1905) there. Hence statements 1 and 2 are correct.**
- Shyamaji Krishnavarma first came to Britain as a Sanskrit scholar and assistant to Professor Monier Williams at Oxford. He graduated from Balliol College in 1883 and was called to the Bar in 1884. In 1881, he attended the Berlin Congress of Orientalists.
- He created scholarships for Indian students to study in Britain from 1905, on the condition that they would not work for the British Government.
- Krishnavarma soon began to publish a journal called The **Indian Sociologist** which was the mouthpiece of the Home Rule Society.
- He also instituted six lectureships of rupees 1,000 each to attract Indian scholars who might like to visit England to preach the ideas of Indian nationalism.
- He was able to assemble a band of Indian revolutionaries the most prominent, of whom was **Lala Hardayal, V.D. Savarkar and Madanlal Dhingra, Madame Cama, a Parsi lady and Birendranath Chattopadhyay** were also associated with this group.
- **Their paper, the Indian Sociologist began to preach the ideal of complete independence for India to be achieved by passive resistance and non-cooperation of an extreme form. They did not also rule out the use of violence to achieve their end. Hence statement 3 is correct.**
- The activities of these Indian extremists soon attracted the attention of the British government. The Times of London and some other British newspapers attracted the activities of these extremists in their columns.

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government intended to take any action against these people.

- Krishnavarma later moved to Paris. The leadership of the Indian house of London then passed to Savarkar.

Q 60.D

- The procedure for presentation of the Budget and its passing by Lok Sabha is as laid down in articles 112—117 of the Constitution of India, Rules 204—221 and 331-E of the Rules of Procedure and Conduct of Business in Lok Sabha, and Direction 19-B of Directions by the Speaker.
- **Budgets of Union territories and States under President's Rule are also presented to Lok Sabha.** The procedure with regard to the Budget of the Union Government is followed in such cases with such variations or modifications, as the Speaker may make.
- **Hence option (d) is the correct answer.**

Q 61.C

- Soon after the annexation of Bengal, in **1776-77 a group of wandering Muslim religious mendicants known as Faqirs, commenced against the British ascendancy an agitation which came to be known as Faqir Uprising of Bengal**. They were **led by Manjum Shah**. He defied the **British authority and began to levy taxes on the farmers and zamindars in Bengal.**
- They looted English factories acquiring cash, arms and ammunitions. **Manjum Shah was supported by Rajputs, Pathans and disbanded Indian soldiers.** After Majnu Shah's death, **his brother Chirag Shah led the operations** and under his leadership the uprising spread to the northern districts of Bengal.
- The Hindus also actively participated in the faqirs uprising. **Bhawani Pathak and Devi Chaudhurani were among the prominent Hindu leaders** who lent their support to this movement.
- The faqirs, led by Chirag Ali Shah, gained considerable strength and attacked the English factories and succeeding in seizing their goods, cash and ammunition. The faqirs and the company's troops entered into a number of skirmishes. **The faqirs uprising was finally crushed at the beginning of the 19th century. Hence option (c) is the correct answer.**

Q 62.A

- India is a prominent and rapidly growing presence in the global pharmaceuticals industry. **India is the largest manufacturers and exporter of generic medicines,** occupying a 20% share in global supply by volume, and also supplies 62% of global demand for vaccines. India ranks 3rd worldwide for production by volume and 14th by value. **Hence, statement 1 is correct.**
- According to the Indian Economic Survey 2021, the domestic market is expected to grow 3x in the next decade. India's domestic pharmaceutical market is estimated at US$ 42 billion in 2021 and likely to reach US$ 65 billion by 2024 and further expand to reach ~US$ 120-130 billion by 2030.
- **India's drugs and pharmaceuticals exports stood at US$ 24.44 billion in FY21, the third-largest export commodity after petroleum products and gems & diamonds**. India is the 12th largest exporter of medical goods in the world. The country's pharmaceutical sector contributes 6.6% to the total merchandise exports. **Hence, statement 3 is not correct.**
- **100% Foreign Direct Investment (FDI) in the Pharmaceutical sector is allowed under the automatic route for greenfield pharmaceuticals**. 100% FDI in the pharmaceutical sector is allowed in brownfield pharmaceuticals; wherein 74% is allowed under the automatic route and thereafter through the government approval route. **Hence, statement 2 is correct.**

Q 63.C

- In 2019-20, India's agricultural and allied exports amounted to approximately ` 252 thousand crores. While India occupies a leading position in the global trade of the aforementioned agri- products, its total agri-export basket accounts for a little over 2.5 per cent of world agri-trade.
- **Since economic reforms began in 1991, India has remained a net exporter of agri-products,** with agri-exports touching ` 2.52 lakh crores and imports at `1.47 lakh crores in FY 2019-20. **Hence, statement 1 is correct.**
- An analysis of the last six years of the share of top ten agricultural commodities in the total value of agricultural export shows that there have been significant changes in the composition of agro exports. **The share of marine products in total agricultural export value has remained the largest over the period.** Its share in total agricultural export value increased from 14.5 per cent in 2015-16 to close to 19 per cent in 2019-20. **Hence, statement 3 is correct.**

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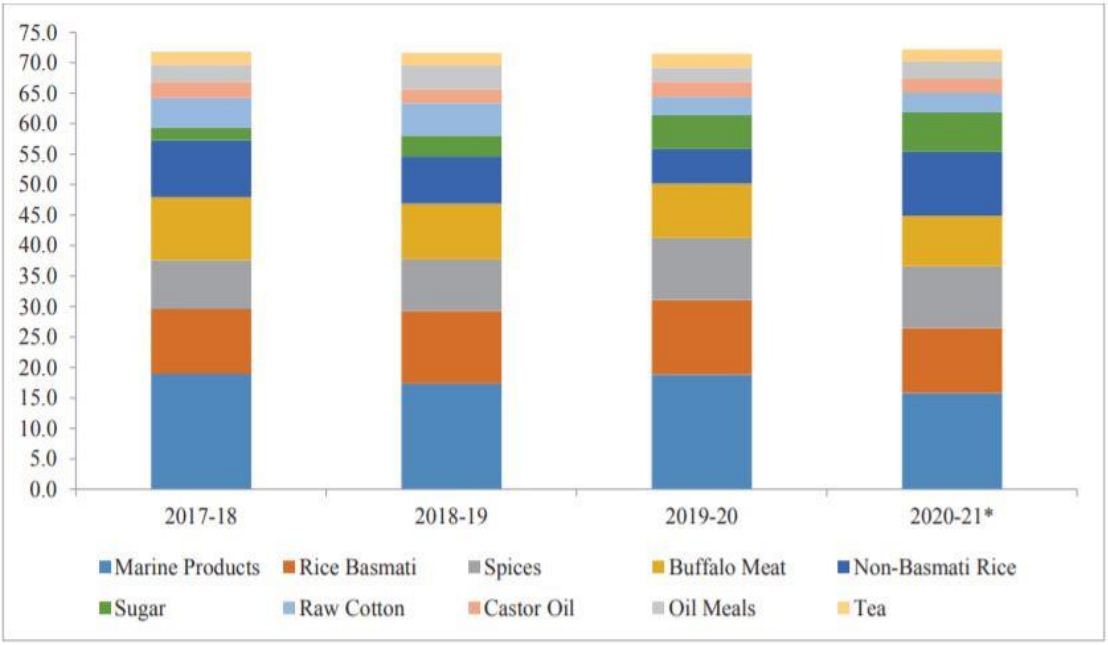
during the period. Other commodities that have witnessed an increasing trend during the period are non-basmati rice, spices and sugar. **Hence, statement 2 is not correct.**

- The shares of the commodities such as buffalo meat and raw cotton in total agricultural export value have, however, declined during the period. The shares of the commodities such as castor oil and tea have remained more or less stable over this period.

Figure 7: Trend in the Share of Agricultural Commodities in Total Value of Agri-export (per cent)



Source: Based on data received from DAC&FW.
* Upto November, 2020.

Q 64.C

- **"Passivated Emitter and Rear Contact" solar cells, known as PERC solar cells, are becoming more common today as an option for making solar panels.**
- PERC solar cells are modified conventional cells that enable the cells to produce 6 to 12 percent more energy than conventional solar panels. PERC solar cells have an extra layer within the back side of the cell. This allows some of the sun's rays to reflect back into the solar cell, giving them another opportunity to be turned into energy.
- Since PERC solar cells are a modification of conventional cells, they can be manufactured using the same equipment. This makes it easy for manufacturers to change and produce the higher efficient cells. With the higher efficient cells, it will take fewer panels to produce the same amount of electricity when compared to a conventional panel.
- **Hence, option (c) is the correct answer.**

Q 65.D

- There are three methods of measuring national income. They are **(A) Output or value-added method (B) Income method (C) Expenditure Method**.
- National income can also be measured at the disposition phase with the help of the expenditure method. It estimates national income by measuring final expenditure on the gross domestic product at market price.
- Expenditure incurred on final goods is final expenditure. Final goods are those goods that are demanded final consumption and investment. The demand for final consumption and investment is made by all the four sectors of the economy, namely, households, firms and the government and the rest of the world.
- **The main steps involved in measuring national income by this method are:**
- **Firstly**: Estimate the following expenditure incurred on the final products of all the sectors of the economy. (i) Private final consumption expenditure. (ii) **Government final consumption expenditure.** (iii) Gross Investment (iv) Net exports (exports - imports).
- The sum total of all the above expenditures on final products of all the sectors of the economy gives us the gross domestic product at market price.

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domestic product at market price to get net domestic product at factor cost. **NDPfc = GDPmp - consumption of fixed capital - Net indirect tax (indirect taxes - subsidies)**

- **Thirdly:** Add net factor income from abroad to the net domestic product at factor cost to obtain the net national product at factor cost which is the national income. **NNPFC = NDPfc + net factor income from abroad.**
- The main precautions required to be taken in estimating national income by expenditure method are:(i) Expenditure on intermediate products should not be included to avoid the problem of double counting. (ii) **Expenditure on gifts, donations, taxes, scholarships etc. should not be included in National Income as these are transfer payments. Hence options 3 and 4 are correct.** (iii) Expenditure incurred on the purchase of second-hand goods should not be included as the expenditure on these goods has already been included when bought for the first time. (iv) **Expenditure on the purchase of bonds and shares should not be included as these are financial transactions. Hence option 1 is correct.**

Q 66.C

- **Oceanic gyres are large systems of circular ocean currents formed by global wind patterns and forces created by Earth's rotation.** The five major circulation patterns formed by the currents on this map are the world's five major ocean gyres: North Atlantic, South Atlantic, Indian, North Pacific, and South Pacific. (The Indian Ocean Gyre is actually two, split slightly below the Equator.) The **term "gyre" is also used commonly to refer to the collections of plastic waste and other debris found in higher concentrations in certain parts of the ocean due to a prevalent system of the circular movement of the Oceanic currents.**
- **Hence option (c) is the correct answer**

Q 67.C

- Electromagnetic field and radiations that are invisible to human eye are omnipresent. There are several natural and anthropogenic sources that generate electromagnetic field in the surrounding air like television towers, radio towers and cell phone towers. Several countries have observed a reduction in bird diversity coinciding with the proliferation of Cellular Mobile Base stations.
- **Option 1 is correct:** Magnetic field from the towers disturbs birds' navigation skills hence when birds are exposed to Electromagnetic Radiations they disorient and begin to fly in all directions.
- **Option 2 is not correct:** Birds are known to be sensitive to magnetic radiation. The surface area of bird is relatively larger than their body weight in comparison to human body so they absorb more radiation. Also the fluid content in the body of the bird is less due to small body weight so it gets heated up very fast.
- A large number of birds die each year from collisions with telecommunication masts.
- **Option 3 is correct:** Birds are known to be sensitive to magnetic radiation. Increasing number of cell phone towers in cities apparently are bringing down bird population. The microwaves (300 MHz to 300 GHz) emitted by cell phone towers and handsets has been found to be responsible for damaging eggs and embryos of sparrows. Pulsed magnetic fields can influence the development and incidence of abnormalities in chicken embryos while a stressed immune system may increase the susceptibility of a bird to infectious diseases.
- Plumage deterioration is the first sign of stress and illness in the birds. It has been found that the plumage of the birds exposed to microwaves may get discolored.

Q 68.B

- **'Sattriya dance'** refers to the body of dance and danced drama developed in the sattras or monasteries of Assam since the **fifteenth century,** when the **Vaishnava faith** propagated by the **saint and reformer Shankaradeva (1449-1586)** swept the land. It is a distinct genre within the fold of classical Indian dance, with an evolved language of hand gesture (hasta), footwork (pada karma), movement and expression (Nritta and Abhinaya), and a **repertoire centered on devotion to Krishna. Hence statement 1 is correct and statement 2 is not correct.**
- On the stage today, an artist presents a programme adapted from the traditional repertoire, sometimes supplemented with new choreography. Typically, it may start with an invocation to the deity, Krishna or Rama, followed by the dance of the sutradhar, the conductor of performances in the sattra. The dancer may then present a mix of pure dance and abhinaya based upon the vast literature of the sattras, the items chosen to give full play to her accomplishment in these departments of the dance. **Ramdani, Chali, Mela Nach and Jhumura** offer scope for Nritta, while abhinaya may be explored in the form of Geetar Nach. **Group dances are also common** in traditional and modern Sattriya dance, and these may be

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musicians. **Hence statement 3 is correct.**

- **Sankaradeva** introduced this dance form by **incorporating different elements from various treatises, local folk dances** with his own rare outlook. Dance forms such as Ojapali and Devadasi, local folk dances such as Bihu etc. have visible influence on Sattriya dance repertoire. **Hence statement 4 is not correct.**
- Sattriya dance tradition is governed by **strictly laid down principles** in respect of hastamudras, footworks, aharyas, music etc. This tradition, has two distinctly separate streams - the Bhaona-related repertoire starting from the Gayan-Bhayanar Nach to the Kharmanar Nach, secondly the dance numbers which are independent, such as Chali, Rajagharia Chali, Jhumura, Nadu Bhangi etc. Among them the Chali is characterized by gracefulness and elegance, while the Jhumura is marked by vigor and majestic beauty.

Q 69.D

- **The Fishing Cat or Prionailurus Viverrinus** is a medium-sized cat endemic to South and Southeast Asia. It is mostly found in wetlands and is among the 15 felids (cat) species that inhabit India. Since 2016, the State animal of West Bengal, the fishing cat has been listed as 'vulnerable' on the IUCN Red List.
- About twice the size of a typical house cat, the fishing cat (Prionailurus viverrinus) is a feline with a powerful build and stocky legs.The fishing cat is an **adept swimmer** and enters water frequently to prey on fish as its name suggests. It is known to even dive to catch fish. **Hence statement 3 is correct.**
- Wetlands are the favourite habitats of the fishing cat. In India, fishing cats are **mainly found in the mangrove forests of the Sundarbans, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys and in the Western Ghats. Hence statement 2 is not correct.**
- **The fishing cat is nocturnal** and apart from fish also preys on frogs, crustaceans, snakes, birds, and scavenges on carcasses of larger animals. **Hence statement 1 is correct.**
- The Convention on International Trade in Endangered Species (CITES) lists the fishing cat on Appendix II part of Article IV of CITES, which governs international trade in this species.
- In India, the fishing cat is included in Schedule I of the Indian Wildlife (Protection) Act, 1972 and thereby protected from hunting.

Q 70.C

- The cutting of DNA at specific locations became possible with the discovery of the so-called 'molecular scissors'– restriction enzymes.
- In the year 1963, the two enzymes responsible for restricting the growth of bacteriophage in Escherichia coli were isolated. One of these added methyl groups to DNA, while the other cut DNA. The later was called restriction endonuclease.
- **Hind II was the first discovered restriction endonuclease enzyme**. It has been isolated from Haemophilus influenzae Rd. It cuts DNA molecules at a particular point by recognising a specific sequence of six base pairs. This specific sequence is known as the recognition sequence for Hind II. It produces blunt ends.
- **Hence, option (c) is the correct answer.**

Q 71.C

- Uttar Mimamsa is also known as Vedanta, and signifies the end of the Veda. According to it, **the world is Maya (illusion) and there is only one reality, Brahman**. **Hence statement 2 is correct.**
- **While Purva Mimamsa focused on sacrifical acts,** Vedanta focused on brahman or jnana (knowledge) and was based on an interpretation of the Upanishads. Arguing that the results of sacrifice were impermanent, while the object of knowledge (brahman) was eternal and unchanging.
- Like the other philosophical systems, Vedanta too was framed within a liberation theology; **the ultimate aim of knowledge was moksha, i.e., liberation from samsara. It relies on the knowledge to achieve the moksha (liberation).** The self or the atman (soul) is identical with Brahman (knowledge), and hence if a person acquires the knowledge of the self, he acquires the knowledge of brahman and thus attains salvation or liberation. **Hence statement 3 is not correct.**
- **Vedantic cosmology is largely incorporated from the earlier Samkhya system. Hence statement 1 is correct.**
- **There are three sub-branches for Vedanta:**
  - **Absolute Monism or Advaita/ non-dualist Vedanta of Shankara.**
    - He considers brahman to be without any attributes and considers knowledge or jnana to be the chief means of salvation.

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- **Visistadvaita Advaita or qualified monism/ non-dualism of Ramanuja**
  - He combined Vaishnava bhakti with Upanishadic monism.
  - According to him, atman and brahman are distinct but inseparable.
  - The road to salvation lies in practising devotion or loving faith.
- **Dvaita of Madhvacharya:**
  - He considers God to be completely different from the individual soul and the world.
  - He asserts that the individual soul has many defect, but it can attain near perfection by worshipping God.

Q 72.C

- **Reclining Buddha**
  - A reclining Buddha statue represents The **Buddha during his last illness, about to enter Parinirvana** - the stage of great salvation after death that can only be attained by enlightened souls. **Hence, statement 1 is correct.**
  - Statues of Reclining Buddha **show him lying on his right side**, his head resting on a cushion or on his right elbow. It is meant to show that all beings have the potential to be awakened and be released from the cycle of death and rebirth.
  - The Reclining Buddha was **first depicted in Gandhara art** - which began in between 50 BC and 75 AD and peaked during the Kushana period from the 1st – 5th centuries AD. **Hence, statement 2 is correct.**
- **Reclining Buddha in India**
  - **Cave No. 26 of Ajanta** contains a 24-foot-long and nine-foot-tall sculpture of the Reclining Buddha, believed to have been carved in the 5th century AD.
  - **Kushinagar** (present-day Uttar Pradesh – where Buddha attained parinirvana) has a 6-meter-long red sandstone monolith statue of the Reclining Buddha inside the Parinirvana Stupa.
- **Reclining Buddha outside India**
  - In Sri Lanka and India, the Buddha is mostly shown in sitting postures, while the reclining postures are more prevalent in Thailand and other parts of southeast Asia.
  - The **largest reclining Buddha in the world is the 600-foot Winsein Tawya Buddha built in 1992 in Mawlamyine, Myanmar. Hence, statement 3 is not correct.**
  - The Bhamala Buddha Parinirvana in Pakistan's Khyber Pakhtunkhwa province is considered the oldest statue of its kind in the world. It is over 1800 years old.
  - In the late 15th century, a 70-meter statue of the **Reclining Buddha was built at the Hindu temple site of Baphuon in Cambodia's Angkor.**

Q 73.B

- Seven countries have led the world in the production of gem-quality diamonds for over a decade. **Russia, Botswana, Canada, Angola, South Africa, the Democratic Republic of the Congo, and Namibia** have all been consistently producing over one million carats per year.
- **Aikhal (means 'fame') is the biggest diamond mine in the world.** It is located in Yakutia, in the far east of Russia. Diamonds have been found in **Russia** as far back as the 18th century. The first significant production occurred in 1957 from the **Mir kimberlite pipe** and its adjacent placers. Some of the important diamond mines in Russia are **Aikhal, Udachny and Nyurba**. Nyurba is again located in Yakutia.
- **Jwaneng (means 'a place of small stones') is the richest diamond mine in terms of value. It is located in the South of Botswana, in the Kalahari Desert. De Beers Group owns the diamond mine through a partnership with the government of Botswana. Botswana** was one of the first areas where bulk sampling and indicator mineral mapping were used to characterize and identify diamond pipes across a large and difficult geographic area. Some of the main diamond mines in Botswana are **Jwaneng and Orapa** diamond mines.
- **The Catoca diamond mine is located in the Northeast of Angola.** The African diamond mine is the sixth largest diamond mine in the world. It is estimated to contain up to 130Mct of mineable diamonds.
- **Hence option (b) is the correct answer.**

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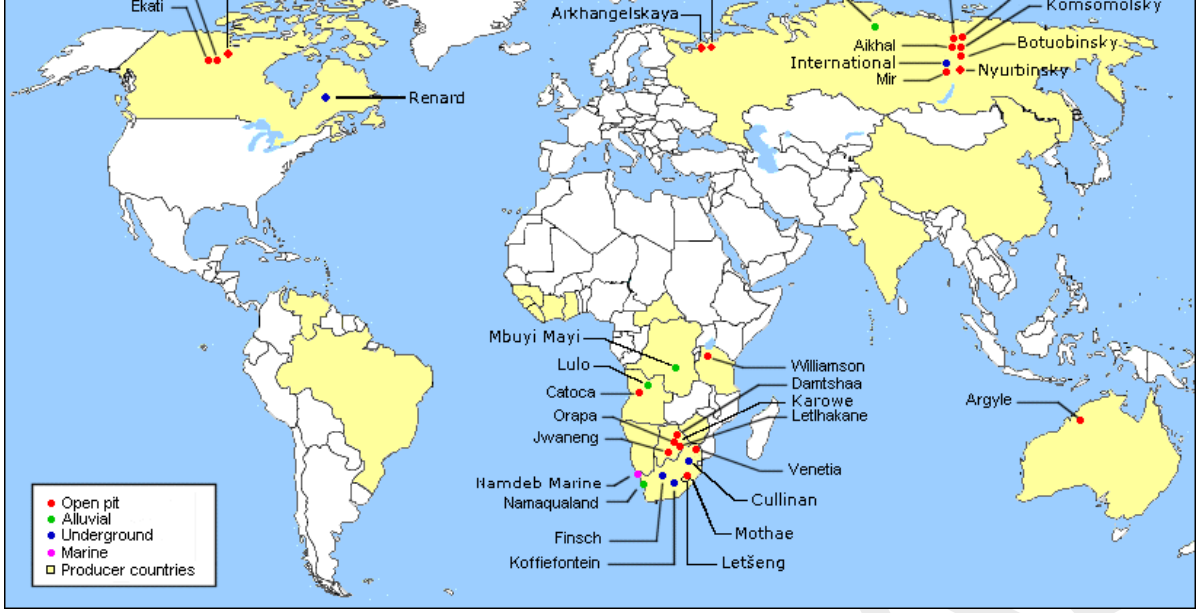

Q 74.D

- Remissions of Duties and Taxes on Exported Products (RoDTEP) is a much-awaited scheme that seeks to replace the Merchandise Exports from India Scheme (MEIS).
- MEIS was devised to incentivise exporters in offsetting infrastructural inefficiencies and the associated costs. It was considered a subsidy and pronounced as a violation of the World Trade Organisation (WTO) rules, by its Dispute Settlement Body in 2019. The Subsidies and Countervailing Measures (SCM) Agreement of the WTO prohibits a government especially countries above a certain specific threshold of development, from providing financial benefits to exporters in the form of incentives.
- This prompted the Central Government of India to rollout alternate schemes that are compatible with the WTO mandate. With RoDTEP exporters will be compensated for the non-creditable duty/tax costs (such as Electricity Tax, Stamp duty, Mandi Fee, Tax on fuel, etc.) that are embedded in the export goods.
- The key differences between the MEIS Scheme and the newly launched RoDTEP Scheme are:
    - Under MEIS, an ad-hoc incentive was available as a percentage of the export price, which could be used for the payment of import duties. However, under the RoDTEP Scheme, exporters are entitled to a certain percentage of the export price as a scrip, which is limited approximately to the embedded taxes.
    - **While the MEIS Scheme is an incentive in the form of physical, transferrable scrips used for payment of various components of Customs duties**, the RoDTEP Scheme is an electronic, transferable credit, which can be **used for payment of only the Basic Customs Duty. Hence, statement 1 is correct.**
    - **The MEIS incentive was often higher, as against RoDTEP,** the basis of which is the actual taxes/duties embedded in the commodity. **Hence, statement 2 is not correct.**
    - **The MEIS Scheme has been under the cloud from the standpoint of WTO norms compliance, whereas RoDTEP Scheme, has been framed in accordance with WTO guidelines. Hence, statement 3 is correct.**

Q 75.A

- The James Webb Space Telescope (sometimes called JWST or Webb) will be a large infrared telescope with an approximately 6.5 meter primary mirror. Webb will be the premier observatory of the next decade, serving thousands of astronomers worldwide.
- It will study every phase in the history of our Universe, ranging from the first luminous glows after the Big Bang, to the formation of solar systems capable of supporting life on planets like Earth, to the evolution of our own Solar System.
- **The James Webb Space Telescope is an orbiting infrared observatory** that will complement and extend the discoveries of the Hubble Space Telescope, with longer wavelength coverage and greatly improved sensitivity. The longer wavelengths enable Webb to look much closer to the beginning of time and to hunt for the unobserved formation of the first galaxies, **as well as to look inside dust clouds where stars and planetary systems are forming today. Hence, statement 1 is correct.**

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Hence, statement 2 is not correct.

- **Webb is an international collaboration between NASA, the European Space Agency (ESA), and the Canadian Space Agency (CSA). Hence, statement 3 is not correct.**

Q 76.A

- The concept of virtual, or embedded, water was first developed as a way of understanding how water scarce countries could provide food, clothing and other water intensive goods to their inhabitants. The global trade in goods has allowed countries with limited water resources to rely on the water resources in other countries to meet the needs of their inhabitants. As food and other products are traded internationally, their water footprint follows them in the form of virtual water.
- **Virtual water trade refers to the import and export of hidden water in the form of products such as crop products, textiles, machinery and livestock — all of which require water for their production. Hence statement 1 is correct.**
- Historically, China has been a net importer of virtual water. India, on the other hand, **owing to its excessive agricultural exports, losses water** and puts water sustainability in the long run at risk. **This makes India a net exporter of the Virtual Water. Hence statement 2 is not correct.**
- It is found that India exported 26,000 million litres of virtual water on an average every year. Rice was the highest exported food product, followed by buffalo meat and maize.

Q 77.B

- In a recent verdict, the National Green Tribunal (NGT) directed the Government of Odisha to notify the proposed corridors for free movement of elephants in the state.The definition of 'corridor' differs from species to species. For elephants, they constitute a narrow and short stretch of forest through which the animals can move from one habitat source to another.
- The **Sigur Elephant Corridor,** the only one of its kind **connecting Western and the Eastern Ghats** and facilitating easy movement of about 6,300 Asiatic elephants from **Kerala, Tamil Nadu, and Karnataka,** is in the **Nilgiri district of Tamil Nadu. Hence, pair 1 is not correctly matched.**
- Tamorpingla–Jashpur Elephant corridor connects the elephant population of **Tamorpingla Wildlife Sanctuary to Jashpur Forest Division.** It is located in **Chhattisgarh. Hence, pair 2 is correctly matched. Karo-Karampada** connects the **Karo and Sidhamatha Reserve Forests** of Keonjhar Forest Division in **Odisha** with the **Karampada Reserve Forest** of Saranda Forest Division in **Jharkhand.** The terrain is hilly and dominated by mines. Before intense mining in this area, elephants used to prefer such a corridor for movement. But currently, it has been restricted. **Hence pair 3 is not correctly matched.**
- **Additional Information:** The Wildlife Institute of India (WII), Dehradun, published a report titled L*andscape Sustainability Challenges in West Singhbhum region due to collective mining regime: Mining – Wildlife habitat linkages and Impacts* in 2016. It recognised three of the corridors namely **Karo-Karampada**, **Badampahar-Karida** and **Badampahar-Dhobadhobin** that connect the forests of Jharkhand with those of Odisha. **Mining activities (iron ore and china clay) in the Badampahar Reserve Forest affect elephant movement in the corridor.**

Q 78.A

- The period of the **Vijayanagara Empire** is considered an **age of prosperity in South India in the 14th century CE**.
  - Agriculture was the main sustenance.
  - The most prosperous time during the 230-year rule of the empire was during the rule of the Sangama dynasty of which Deva Raya II was the most successful and during its peak under Krishnadevaraya. Progress was made in the **building canals, fortifications, water storage tanks (bunds).** Many elaborate and clever canals and Anecut stored and channeled water to the capital. These canals also lead to the cultivable areas in the fortified city and outside. The features were so advanced that many of the ideas were maintained by the Tungabhadra river authority during their projects in the 1950s.
  - The core area urban communities depended on private tanks, communal tanks, and bore wells for water. The royal enclosures had the most sophisticated water distribution and recirculation systems. The main water supply to the royal enclosure came from **Kamalapuram.** Water pipes sealed in brick and lime plaster were used. Water conservation and recirculation had gained importance in these dry areas. Large tanks providing water for irrigation were called Anecut or Bund. **Hence option (a) is the correct answer.**

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14th centuries. The dynasty was established in either 9th or 10th century, and its early rulers most probably ruled as vassals of the Rashtrakutas of Manyakheta. The earliest extant Paramara inscriptions, issued by the 10th-century ruler Siyaka, have been found in Gujarat. Around 972 CE, Siyaka sacked the Rashtrakuta capital Manyakheta, and established the Paramaras as a sovereign power.

- The **Kakatiya dynasty** was a South Indian dynasty that ruled most of the eastern Deccan region comprising present-day Telangana and Andhra Pradesh, and parts of eastern Karnataka and southern Odisha between the 12th and 14th centuries. A notable trend during the dynastic period was the construction of reservoirs for irrigation in the uplands, around 5000 of which were built by warrior families subordinate to the Kakatiyas. The dramatically altered the possibilities for development in the sparsely populated dry areas. Many of these edifices, often called "tanks", including the large examples at Pakala and Ramappa, are still used today.
- The **Pala Empire** was an imperial power during the post-classical period in the Indian subcontinent, which originated in the region of Bengal. It is named after its ruling dynasty, whose rulers bore names ending with the suffix Pala. They were followers of the Mahayana and Tantric schools of Buddhism. The empire was founded with the election of Gopala as the emperor of Gauda in 750 CE. The Pala stronghold was located in Bengal and Bihar, which included the major cities of Gauda, Vikrampura, Pataliputra, Monghyr, Somapura, Ramvati (Varendra), Tamralipti, and Jaggadala.

Q 79.A

- Socialist principles reflect the ideology of socialism. They lay down the framework of a **democratic socialist state**, aim at providing social and economic justice, and set the path towards a 'welfare state'. They direct the state:
- To promote the welfare of the people by securing a social order permeated by justice—social, economic, and political—and to minimize inequalities in income, status, facilities, and opportunities.
- To secure
  - the right to adequate means of livelihood for all citizens;
  - the equitable distribution of material resources of the community for the common good;
  - prevention of concentration of wealth and means of production;
  - equal pay for equal work for men and women;
  - preservation of the health and strength of workers and children against forcible abuse; and
  - opportunities for the healthy development of children
- To promote equal justice and to provide free legal aid to the poor.
- To secure the right to work, to education, and to public assistance in cases of unemployment, old age, sickness and disablement.
- To make provision for just and humane conditions of work and maternity relief.
- To secure a living wage, a decent standard of life, and social and cultural opportunities for all workers.
- To take steps to secure the participation of workers in the management of industries.
- To raise the level of nutrition and the standard of living of people and to improve public health.
- **Article 49: The State shall protect every monument or place of artistic or historic interest. This DPSP is categorized as a liberal-intellectual provision and not socialist.**
- **Hence option (a) is the correct answer.**

Q 80.A

- The Indian Councils Act 1861 was passed by British Parliament to make substantial changes in the composition of the Governor General's council for executive & legislative purposes.
- Some of the key provisions of the act were:
  - **Executive Functions**
    - A fifth member was added to the council for financial administration.
  - **Legislative functions**
    - A provision was made for an addition of 6 to 12 members to the central executive for making laws. **Hence, option (b) is correct.**
    - At least half of the additional members were to be non-officials who could be Indians or English.
    - These members were nominated by the Viceroy for a period of two years. **Hence, option (a) is not correct.**
  - **Powers of Governor-General**
    - He was authorized to nominate a president to preside over the meetings of the Executive council in his absence.

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- He could create new provinces for legislative purposes and appoint Lieutenant Governors for them.
- He could promulgate ordinances, without the concurrence of the legislative council, during an emergency.
- He could withhold his assent or exercise his veto power if he felt that the bill affected the safety, peace and interest of British India. **Hence, option (d) is correct.**

- **Introduction of Portfolio System**
  - The Act empowered the Governor-General to delegate the special tasks to individual members of the Executive council and hence all members have their own portfolio.
- **Decentralization**
  - The Governments of Bombay and Madras were given the power of nominating not more than 8 additional members of the Executive council for purpose of legislation for maximum two years.
  - The consent of the Governor and the Governor-General was made necessary for all legislation passed or amended by the Governments of Madras and Bombay.
  - It provided for the establishment of new legislative councils for Bengal, North-Western Frontier Province and Punjab, which were established in 1862, 1866, and 1897 respectively. **Hence, option (c) is correct.**
- **Critique of the Act**
  - It was significant since it enabled the Governor-General to associate the people of the land with work of legislation and granting a certain degree of legislative autonomy to Bombay and Madras.
  - However, the legislative councils had very little powers. They had no right to move a vote of no confidence.
  - Further, there was no statutory/specific provision for the nomination of Indians.
  - Further, Governor-General was empowered to issue ordinances at his own will.

Q 81.D

- Recently State of the World's Trees September 2021 was released by London-based Botanic Gardens Conservation International.
- According to the report some 469 of India's 2,603 tree species (18 per cent) are threatened with extinction. The country is also home to 650 endemic tree species that are not found anywhere else. The Indo-Malaya and Oceania, the Afrotropics (Africa south of the Sahara, including Madagascar) have the highest proportion of threatened tree species. The Palearctic and Nearctic (North America) realms mostly have tree species that are not threatened.
- The world has 58,497 tree species. **The Neotropics (Central and South America) have the largest number of tree species with 23,631 tree species**. Indo-Malaya is second, with 13,739 species and the Afrotropics have 9,237 species. **The Nearctic and Oceania have the lowest number of tree species. Hence statement 1 is not correct.**
- **The researchers found that 142 of the world's tree species have become extinct, 17,510 or 29.9 per cent are threatened, 4,099 or 7.1 per cent are possibly threatened**, **24,255 or 41.5 per cent are not threatened, 7,700 or 13.2 per cent are data deficient and 4,790 or 8.2 per cent have not been evaluated**. **Hence statement 3 is not correct.**
- Among countries, Brazil, China, Colombia and Indonesia had a large number of tree species as well as a large number of threatened species. Madagascar is one of the countries with the highest number of threatened trees. The report also noted that on an average, 11 per cent of the flora or plant life of every country was made up of threatened species. In the case of Madagascar where 59 per cent of its flora was made up of threatened species. The islands of St Helena and Mauritius faced similar situations with 69 per cent and 57 per cent of their flora threatened. There were also 27 countries that had no threatened species of trees.
- **Other than Indo-Malaya and Oceania, the Afrotropics (Africa south of the Sahara, including Madagascar) have the highest proportion of threatened tree species**. **The Palearctic and Nearctic (North America) realms mostly have tree species that are not threatened. Hence statement 2 is not correct.**

Q 82.A

- **Somali jet stream is a low level** inter hemispheric cross equatorial flow of air, attains Jet speed at the west end of monsoon regime along the east coast of Africa.

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jet reaches Kenya coast (at about 3ºS) covers the plains of Kenya, Ethiopia and to Somali Coast at about 9ºN). During May, it moves further into eastern Africa, then into Arabian sea and reaches west coast of India in June.

- It attains maximum strength in July. Short period (8-10 days) fluctuations are observed in Low Level Jet stream.
- **Its strengthening gives rise to strong monsoon over peninsular India. Hence statement 1 is correct.**
- **Tropical easterly jet (TEJ)** flows south of the sub-tropical ridge over Asia, the easterly flow concentrates into jet stream centred near about the latitude of Chennai in July. The jet stream runs from the east coast of Vietnam to the west coast of Africa. Over Africa, the location is at 10° N.
- Normally, the jet is at an accelerating stage from the South China Sea to south India and decelerates thereafter. The location of the Easterly Jetstream seems to influence the pattern of monsoon rainfall. TEJ weakens to less than 50 knots over India in September. During Break monsoon conditions **TEJ moves northwards up to latitude 20ºN. Hence statement 2 is not correct.**

Q 83.C

- **Statement 1 is correct:** Recently it was reported in early snowfalls in Kashmir, where almost 80% of India's apples are grown, have seen the region's farmers lose half their crops in the third year of disastrous harvests. Officials are trying to calculate the loss to the apple industry, which contributes almost a third – 50bn rupees (£500m) – to the local economy annually. The apples are sold in fruit markets across India and some are exported.
- Researchers have warned that orchards in the Kashmir valley, which is ringed by the Greater Himalayas and the Pir Panjal mountains, are likely to become unsustainable in the next few years, as the climate crisis affects production.
- The last 20 years have seen gradual changes in weather patterns in the region, which have intensified in the past five years. This is the third year harvests have been affected by early and heavier snowfalls in the Kashmir valley.
- **Statement 2 is correct:** McIntosh apples hail from the hilly areas of Uttarakhand, UP and Himachal Pradesh. The slightly sweet and tarty taste and crisp texture of these apples are widely used for making desserts, jellies, jams, pies and cakes.
- Some other varieties of apples found in India are: Ambri Apple, Granny Smith, Honeycrisp, Chaubattia Anupam, Golden Delicious, Sunehari, Fuji Apple, Tydeman's Early, Red Delicious, Gala Apple, Irish Peach, Parlin's Beauty, Winesap Apple etc.

Q 84.B

- Coal is the most important and abundant fossil fuel in India. It accounts for 55% of the country's energy needs. Hard coal deposit spread over 27 major coalfields are mainly confined to eastern and south-central parts of the country.
- The coal resources of India are available in older Gondwana (570 million years to 245 million years ago) formations of peninsular India and younger tertiary (60 to 15 million years ago) formations of the northeastern region.
- The Gondwana coal belongs to the carboniferous period. It is found in the Damodar, Mahanadi, Godavari, and Narmada valleys. **Gondwana coal makes up to 98 per cent of the total reserves and 99 percent of the production of coal in India. Hence statement 1 is not correct.**
- Tertiary coal is found in the rocks of the Tertiary era. It is about 15 to 60 million years old. Tertiary coal is also known as 'brown coal'. Tertiary coal contributes only about two per cent of the total coal production of the country. **It is an inferior type of coal generally having low carbon and high percentage of moisture and Sulphur. The carbon content varies between 30 per cent in Gujarat and Rajasthan to 50 per cent in Assam.** Lignite coal is found in Arunachal Pradesh and West Bengal (Darjeeling District). The largest lignite deposits of the country are at Neyveli in the state of Tamil Nadu. **Hence, statement 2 is correct.**

Q 85.A

- Pollutants especially nondegradable ones move through the various trophic levels in an ecosystem. Nondegradable pollutants mean materials, which cannot be metabolized by the living organisms.
- Movement of these pollutants involves two main processes: **Bioaccumulation and Biomagnification**.

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essentially happens is that an organism absorbs the chemicals across their skin or otherwise takes them in. The concentration of the toxic chemical will become higher in the organism than it is in the air, water, or soil that the organism got it from. Over time, the amount of the toxic chemical will grow until it reaches the point where it becomes deadly to the living organism.

- The term that bioaccumulation is often confused with is **biomagnification,** which is when a toxic chemical increases in amount each time it moves up a food chain. The toxic chemical may start at a low amount in the original organism that originally took it in, but then that organism is eaten. The second animal that eats the original organism is larger and therefore needs to consume more than just one or two of the organism. This causes the toxic chemical in the second animal to increase from eating multiple organisms.
- **Statement 1 is correct:** One difference is that bioaccumulation refers to the build-up of the chemical in the body of one organism while biomagnification refers to the build-up in multiple organisms.
- **Statement 2 is not correct:** Biomagnification also requires movement up a food chain in order to occur, while bioaccumulation does not require that the animal be eaten. Biomagnification or Bioamplification is an increased concentration of a toxic chemical, the higher an animal is on the food chain.

Q 86.D

- The President of India is elected not directly by the people but by members of an electoral college consisting of:
  - the elected members of both the Houses of Parliament
  - the elected members of the legislative assemblies of the states
  - the elected members of the legislative assemblies of the Union Territories
- The President's election is held in accordance with the system of proportional representation by means of the single transferable vote and the voting is by secret ballot.
- The Constitution provides that there shall be uniformity in the scale of representation of different states as well as parity between the states as a whole and the Union at the election of the President. To achieve this, the number of votes which each elected member of the legislative assembly of each state and the Parliament is entitled to cast at such election shall be determined in the following manner:
  - Every elected member of the legislative assembly of a state shall have as many votes as there are multiples of one thousand in the quotient obtained by dividing the population of the state by the total number of the elected members of the assembly.
  - Every elected member of either House of Parliament shall have such number of votes as may be obtained by dividing the total number of votes assigned to members of the legislative assemblies of the states by the total number of the elected members of both the Houses of Parliament.
- The nomination of a candidate for election to the office of President must be subscribed by at least 50 electors as proposers and 50 electors as seconders. Every candidate has to make a security deposit of ₹15,000 in the Reserve Bank of India
- **By convention, the Secretary-General, Lok Sabha, or the Secretary-General, Rajya Sabha is appointed as the Returning Officer, by rotation. For the Presidential Election, 2017 the Secretary-General Lok Sabha is the Returning Officer**
- **Hence, option (d) is the correct answer.**

Q 87.A

- After Mohenjodaro, Ganweriwala and Harappa in Pakistan and Rakhigarhi in Haryana of India, Dholavira is the fifth largest metropolis of IVC. The site has a fortified citadel, a middle town and a lower town with walls made of sandstone or limestone instead of mud bricks in many other Harappan sites.
- Its incredible **water management system and hydraulic engineering** that contains at least 16 reservoirs and an elaborate systems of drains and sewers. In the citadel area there is an intricate network of storm water drains, all connected to an arterial one and furnished with slopes, steps, cascades, manholes (air ducts / water relief ducts), paved flooring and capstones. The rainwater collected through these drains was stored in yet another reservoir that was carved out in the western half of the citadel. **Hence option 1 is correct.**
- One of the most exciting discoveries at Dholavira is a large **wooden "signboard" just outside the north entrance to the citadel.** This is actually one of the longest Indus inscriptions known. There are 10 symbols in the panel, each one is about 37 centimetres high and the board on which the letters were inscribed appears to have been about 3 meters long. **Hence option 2 is correct.**

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five or more mud brick platforms separated from each other. These are identified as **fire altars**. **Hence option 3 is not correct.**

- The dominant sight at Lothal is the massive dockyard spanning an area 37 meters from east to west and nearly 22 meters from north to south. This is roughly trapezoidal basin, enclosed by walls of burnt bricks. **Hence option 4 is not correct.**

Q 88.B

- When Shahu Bhonsale, the fifth Chhatrapati and grandson of Shivaji died in 1749 he had no legitimate sons to succeed him. His only son from Sagunabai had died in infancy. This started a succession war between his queens, Sakwarbai and Sagunabai both of whom wanted their nominees to succeed Shahu.
- Later Tarabai's (wife of Shahu's uncle, Rajaram) grandson, Ramraja was declared successor. Tarabai tried to control Ramraja and even disallowed access to his Peshwa. But soon Ramraja protested against his grandmother's overbearing nature. As a result, Tarabai declared Ramraja to be an impostor.
- **In 1750, Chhatrapati Ramaraja grandson of Tarabai had signed the Sangola agreement to invest Peshwa with more authority and since then Chhatrapati's role has become more titular in nature.**
- The agreement was in exchange for the pursuit of his rights as Chatrapati and the protection from Tarabai and his henchmen.
- **Hence, option (b) is the correct answer.**

Q 89.B

- The forest ecosystem includes a complex assemblage of different kinds of biotic communities. Optimum conditions such as temperature and ground moisture are responsible for the establishment of forest communities.
- Temperate deciduous forests are located in the mid-latitude areas which means that they are found between the polar regions and the tropics. They are characterised by a moderate climate and **broad-leafed deciduous trees**, which shed their leaves in fall, are bare over winter and grow new foliage in the spring. **Statement 1 is not correct:** Many different kinds of trees, shrubs, and herbs grow in deciduous forests. Most of the trees are broadleaf trees such as oak, maple, beech, hickory and chestnut.
- **Statement 2 is correct:** The areas in which deciduous forests are located get about 750 to 1,500 mm of precipitation spread fairly evenly throughout the year.
- **Statement 3 is correct:** Soils of temperate forests are podzolic and fairly deep.

Q 90.A

- Immunity is the ability of the human body to tolerate the presence of material indigenous to the body and to eliminate foreign substances. There are two basic mechanisms for acquiring immunity: passive and active.
- **Active immunity is protection produced by a person's own immune system.** The immune system is stimulated by an antigen to produce antibody-mediated and cell-mediated immunity. **Hence, statement 1 is correct.**
    - Unlike passive immunity, which is temporary, **active immunity usually lasts for many years**, often for a lifetime. **Hence, statement 2 is not correct.**
- Passive immunity is protection by antibodies or antitoxin produced by one animal or human and transferred to another. Passive immunity provides immediate protection against infection, but that protection is temporary. The antibodies will degrade during a period of weeks to months, and the recipient will no longer be protected.
    - **The most common form of passive immunity is that which an infant receives from the mother.** Antibodies, specifically the class of antibody referred to as IgG, are transported across the placenta, primarily during the last 1 to 2 months of pregnancy. As a result, a full-term infant will have the same type of antibodies as the mother. **Hence, statement 3 is not correct.**

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- Part XI of the constitution deals with the relations between unions and the states and contains Articles 245 to 263.

PART XI

RELATIONS BETWEEN THE UNION AND THE STATES

CHAPTER I.—LEGISLATIVE RELATIONS

Distribution of Legislative Powers

245. Extent of laws made by Parliament and by the Legislatures of States.

246. Subject-matter of laws made by Parliament and by the Legislatures of States.

247. Power of Parliament to provide for the establishment of certain additional courts.

248. Residuary powers of legislation.

249. Power of Parliament to legislate with respect to a matter in the State List in the national interest.

250. Power of Parliament to legislate with respect to any matter in the State List if a Proclamation of Emergency is in operation.

251. Inconsistency between laws made by Parliament under articles 249 and 250 and laws made by the Legislatures of States.

252. Power of Parliament to legislate for two or more States by consent and adoption of such legislation by any other State.

253. Legislation for giving effect to international agreements.

254. Inconsistency between laws made by Parliament and laws made by the Legislatures of States.

255. Requirements as to recommendations and previous sanctions to be regarded as matters of procedure only.

CHAPTER II.— ADMINISTRATIVE RELATIONS

General

256. Obligation of States and the Union.

257. Control of the Union over States in certain cases.

257A. [*Omitted* .]

258. Power of the Union to confer powers, etc., on States in certain cases.

258A. Power of the States to entrust functions to the Union.

259. [*Omitted* .]

260. Jurisdiction of the Union in relation to territories outside India.

261. Public acts, records and judicial proceedings.

Disputes relating to Waters

262. Adjudication of disputes relating to waters of inter-State rivers or river valleys.

Co-ordination between States

263. Provisions with respect to an inter-State Council.

- **Hence, statement 1 is correct.**
- **The term 'Federation' has nowhere been used in the Constitution. Article 1, on the other hand, describes India as a 'Union of States' which implies two things: one, the Indian Federation is not the result of an agreement by the states; and two, no state has the right to secede from the federation. Hence, the Indian Constitution has been variously described as 'federal in form but, unitary in spirit', 'quasi-federal'. Hence, statement 2 is correct**
- The Subject-wise distribution of legislative power is given in the three lists of the Seventh Schedule of the Constitution
  - Union List 98 items
  - State List 59 items
  - Concurrent List 52 items
- **Hence, statement 3 is correct.**

Q 92.D

- As representatives of citizens, MPs have three key roles. The debate and pass laws that govern the country. They oversee the work of the government to ensure effective governance. They ensure efficient allocation of public resources through the Union Budget.
- An MP may participate in the House in broadly two ways. In certain proceedings, MPs may speak on behalf of their parties and may be subject to the party whip. This includes participation in discussions on

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speak.
    - In certain other proceedings, such as Question Hour and some Zero Hour interventions, MPs act independently of their party affiliation.
- An MP can raise issues in the House either on behalf of their political party or independently. In certain interventions, an MP can directly submit his name to the Speaker for consideration. In other interventions, the party leadership decides which MPs will speak on the issue and communicates the names of such MPs to the Speaker.
- **An MP can object to the introduction of a Bill on the grounds that the Bill initiates legislation outside the jurisdiction of Parliament or in violation of the Constitution. An MP opposing the introduction of a Bill has to give notice of his/her objections to the Bill by 10 am on the day it is listed for introduction.**
- When the motion to introduce a Bill is opposed, the Speaker can allow the opposing MP and the Minister-in-charge to make brief statements. If a Bill is opposed on the ground that it falls outside Parliament's jurisdiction, the Speaker may permit a full discussion on the Bill. Then the motion to introduce the bill is put to vote. If the motion is passed, the Bill will be introduced. **Hence, statement 1 is correct.**
- Private Member Bills are Bills that can be introduced in Parliament by MPs who are not Ministers. In the Lok Sabha, the last two and a half hours of sitting on every alternate Friday are allotted for discussing and passing of Private Members' Bills. A one-month notice has to be given by an MP to introduce a Private Member Bill.
- **In the case of multiple Private Bills, the list of Private Member Bills to be taken up for consideration and passing during a Parliament Session is determined by ballot. Hence, statement 2 is correct.**
- The Gazette of India is a public journal and an authorized legal document of the Government of India, published by the Department of Publication, Ministry of Housing and Urban Affairs. As a public journal, the Gazette prints official notices from the government. It is authentic in content, accurate, and strictly in accordance with the Government policies and decisions.
- Generally, after a Bill has been introduced in the Parliament it is published in the Official Gazette. But even before introducing a Bill might, with the permission of the Speaker can be published in the Gazette. **Hence, statement 3 is correct.**

Q 93.A

- Transfer payments are the receipts which the residents of a country get for 'free', without having to provide any goods or services in return. They consist of gifts, remittances and grants. They could be given by the government or by private citizens living abroad. Transfer payment comes under the current account of Balance of Payments. Whereas, **government aid comes under external assistance part of capital account.**
- **Hence, option (a) is the correct answer.**

Q 94.B

- **PANEX-21 is a Humanitarian Assistance and Disaster Relief Exercise. It is to be held for the BIMSTEC countries.** The exercise is to be held among the BIMSTEC countries: Bhutan, Bangladesh, Nepal, Myanmar, Sri Lanka, India, and Thailand. The main aim of the exercise is to build regional cooperation in responding to natural disasters. It is to be conducted in Pune.
- **About the exercise:**
    - The participants of the exercise will be divided into eight syndicates. One syndicate from the participating countries and two from India.
    - It will analyze the capabilities of member states in responding to natural disasters. The countries will share their best practices.
    - The exercise will review the procedures of preparedness and response. It will then recommend the evolution of organized structure
- **Hence option (b) is the correct answer**

Q 95.C

- The report "Renewable energy for agri-food systems: Towards the Sustainable Development Goals and the Paris Agreement", is the result of a joint effort between the **Food and Agriculture Organization (FAO) and the International Renewable Energy Agency (IRENA). Hence option (c) is the correct answer.**

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Glasgow explores the relationship between the world's agri-food systems and renewable energy and argues that solutions are within our grasp.

- A joint approach to an energy transition and agri-food system transformation is crucial to meet the Sustainable Development Goals (SDGs) and the Paris Agreement targets. Thus, to decouple food systems from the use of fossil fuels to contribute to climate action without hampering food security, the UN Food and Agriculture Organization (FAO) and the International Renewable Energy Agency (IRENA) have joined forces to tackle this issue.

Q 96.D

- **In 1929. Jawaharlal Nehru, in his presidential address to the Lahore Congress (hence, statement 2 is not correct)**, declared that 'the Indian states cannot live apart from the rest of India. The only people who have a right to determine the future of the states must be the people of those states.
- Major decisions were taken at the **Lahore session**:
  - The Round Table Conference was to be boycotted.
  - Complete independence (poorna swaraj) was declared as the aim of the Congress and January 26, 1930 was fixed as the first Independence Day, to be celebrated everywhere. **Hence, statement 1 is not correct.**
  - Congress Working Committee was authorized to launch a programme of civil disobedience including non-payment of taxes and all members of legislatures were asked to resign their seats.
- The **first All India Youth Congress was formed in 1928 Madras session** headed by Motilal Nehru. **Hence, statement 3 is not correct.**

Q 97.C

- The mechanism by which a light wave is transported through a medium occurs in a manner that is similar to the way that any other wave is transported - by particle-to-particle interaction.
- Like any wave, the speed of a light wave is dependent upon the properties of the medium. In the case of an electromagnetic wave, the speed of the wave depends upon the optical density of that material.
- The optical density of a material relates to the sluggish tendency of the atoms of a material to maintain the absorbed energy of an electromagnetic wave in the form of vibrating electrons before reemitting it as a new electromagnetic disturbance. **The more optically dense that material is, the slower that a wave will move through the material. Hence, option (c) is correct.**
- One indicator of the optical density of a material is the refractive index. The refractive index of medium 2 with respect to medium 1 is given by the ratio of the speed of light in medium 1 and the speed of light in medium 2.
- For example, the refractive index of water, nw = 1.33. This means that the ratio of the speed of light in air and the speed of light in water is equal to 1.33.

Q 98.C

- Minerals are inorganic nutrients that include trace elements such as copper, zinc, iodine, iron, along with the micronutrients such as calcium, potassium, magnesium and sodium.
- Deficiency of one or more nutrients can cause diseases or disorders in our body. Diseases that occur due to a lack of nutrients over a long period are called deficiency diseases.
- Iodine is the most important element required for the brain development of the developing foetus. It is responsible for a number of other functions such as the production of hormones. Salt is an important source of iodine in many countries. **The deficiency of iodine leads to goitre. Hence, pair 2 is not correctly matched.**
- Iron, in the form of haemoglobin, carries oxygen from the lungs to different tissues of the body. **Iron deficiency causes anaemia, a condition in which the blood is unable to carry the required oxygen to the tissues, which also results in death.** Around 40-60% of the infants in developing countries suffer from mental impairment due to iron deficiency. Red meat, spinach, poultry, etc. are some of the iron-rich foods. **Hence, pair 3 is correctly matched.**
- Calcium is an important mineral needed by the body to build strong bones and teeth. It is also required for the proper functioning of the heart and other muscles of the body. **A long-term calcium deficiency can lead to dental changes and osteoporosis, which causes the bones to become brittle. Hence, pair 1 is not correctly matched.**

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- **Sun-synchronous orbit (SSO) is a particular kind of polar orbit.** Satellites in SSO, travelling over the polar regions, are synchronous with the Sun.
- Satellites in SSO, travelling over the polar regions, are "synchronous" with the Sun. This means they are synchronised to always be in the same 'fixed' position relative to the Sun. This means local time is always the same then it crosses the equator (or any other latitude).
- The satellite in SSO will always observe a point on the Earth as if constantly at the same time of the day, which serves a number of applications; for example, it means that scientists and those who use the satellite images can compare how somewhere changes over time.
- Therefore, scientists use image series like these to investigate how weather patterns emerge, to help predict weather or storms; when monitoring emergencies like forest fires or flooding; or to **accumulate data on long-term problems like deforestation or rising sea levels. Hence, statement 2 is correct.**
- **Geostationary satellites have the unique property of remaining permanently fixed in exactly the same position in the sky as viewed from any fixed location on Earth, meaning that ground-based antennas do not need to track them but can remain fixed in one direction. Hence, statement 1 is not correct.**

Q 100.C

- The **Ministry of Social Justice and Empowerment has formulated a scheme named SMILE (Support for Marginalized Individuals for Livelihood and Enterprise) for the rehabilitation of persons engaged in begging and for providing support to transgender persons. Hence statement 1 is correct**
- It includes two sub-schemes - **'Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons'** and **'Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging'. Hence statement 2 is correct**
- The focus of the scheme is extensively on rehabilitation, provision of medical facilities, counseling, basic documentation, education, skill development, economic linkages, and so on.
- Ministry had identified 10 cities for undertaking pilot project on Comprehensive Rehabilitation of persons engaged in the act of Begging. Currently, the pilot project is ongoing in 7 cities namely Delhi, Bangalore, Hyderabad, Indore, Lucknow, Nagpur, and Patna. These pilots are being implemented with the support of State Governments/UTs/Local Urban Bodies and Voluntary Organizations etc., which provide comprehensive measures including survey and identification, mobilization, rehabilitation, provision of medical facilities, awareness generation, counseling, education, skill development, and sustainable settlement of persons engaged in begging.

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